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The Milroy Lectures

ON

MELITENSIS SEPTICÆMIA

(MALTA OR MEDITERRANEAN FEVER).

Delivered before the Royal College of Physicians of London on March 5th, 10th, and 12th, 1908,

BY J. W. H. EYRE, M.D., M.S. DURH., D.P.H. CANTAB.,

BACTERIOLOGIST TO GUY'S HOSPITAL, AND LECTURER ON BACTERIOLOGY AT GUY'S HOSPITAL MEDICAL SCHOOL; MEMBER OF THE ADVISORY BOARD OF THE MEDITERRANEAN FEVER COMMISSION.

LECTURE II.[1]

Delivered on March 10th.

SYMPTOMATOLOGY.

[AFTER describing the micrococcus Melitensis and detailing its bacteriological attributes and the effects produced in the lower animals by inoculating living cultivations of the organism, the lecturer proceeded to describe the clinical symptoms of the disease as met with in man.]

The monograph of Hughes deals so exhaustively with the clinical pictures observed in the many varying types of micrococcus Melitensis septicæmia as it occurs in endemic areas when naturally acquired that I am relieved of the necessity of doing more than briefly indicating the main features of the disease. Of the clinical appearances of Malta fever the most important, and indeed the only one that aspires to constancy, is the repeated alternation of pyrexial attacks with periods of normal or nearly normal temperature, and in this respect compares closely with enterica followed by many relapses. The character and duration of the pyrexia often vary considerably throughout the course of the disease, so that whilst in many cases the fever is of the remittent type, in others it is intermittent; in some it is continuously high and in a few continuously low; at almost any stage of the disease one type of pyrexia may give place to another. According to the severity of the symptoms cases of Malta fever are often grouped under the headings of acute, subacute, and chronic, but such distinctions are purely arbitrary.

The onset and progress of cases of Malta fever present different features with almost every individual attacked, and consequently render diagnosis from such diseases as enteric fever, acute rheumatism, tuberculosis, malaria, and septicæmia due to other bacteria difficult in the early stages. Some cases are extremely acute from the onset and are initiated in the previously healthy by rigors accompanied by a temperature of 38·5°, 40°, or 41·5° C., severe headache often limited to the back of the eyeball, indefinite pains about the trunk and limbs—particularly in the back—and general malaise. In such a case the face is flushed, the dorsum of the tongue is thickly coated with white fur but pink and moist at the sides and tip, or more rarely dry, brown, glazed, and cracked, and the breath is offensive. Diarrhœa is not infrequently present during the first few days of the attack but soon gives place to constipation. The pulse is strong and increased in frequency, though not usually in proportion to the temperature. The urine is diminished in amount, high in colour, and contains large quantities of uric acid and urates. This type of fever sometimes passes into the "typhoid" state and death results from cardiac failure or, more rarely, hyperpyrexia supervenes. Sometimes a crisis occurs and recovery takes place, but usually the temperature gradually falls to or near normal and the case assumes the subacute type.

The subacute form, on the other hand, is often slow and gradual in onset. For some days slight headache, thirst, constipation, and gastric disturbances, pains in the back, neck, and limbs, usually described as "rheumatic," accompanied by insomnia, mental anxiety, and general depression, combine to produce a marked but at the same time indefinite feeling of ill-health. Next follows a steady and gradually increasing rise of evening temperature with morning remission until 39·5° to 41·5° C. is reached, followed by a similar and almost equally gradual fall until the morning temperature becomes practically normal. The remissions of temperature are almost invariably accompanied by profuse perspirations. The duration of the initial pyrexial attack varies in different cases from one to five weeks, then after an apyrexial interval lasting from five to ten days or a fortnight, during which the temperature remains at or about normal, a relapse sets in, similar in all respects to the first attack but often distinctly shorter and less severe. This sequence of events is repeated again and again, the duration of the disease varying from six weeks to six or nine months. I have seen several cases where the duration of the disease has exceeded two years and one where the fever had existed with typical pyrexial attacks at irregular intervals for three years.

Finally, mention must be made of the ambulatory type of case described by Shaw in which symptoms are entirely absent or are limited to a few days' fever (37·5° C.) and the only proof of the existence of the disease is the presence of agglutinins in the blood and occasionally of the micrococcus Melitensis itself also; while in the urine (although normal in appearance) the specific organism is often present in enormous numbers (22,000 per cubic centimetre) and in a highly virulent condition. Marston, it should be noted, was also familiar with this ambulatory type of case, for he says "..... upon the other [hand] so mild may the symptoms appear that the patient may never be confined to bed and be all the while supposed to be labouring under a peculiar form of dyspepsia."

The more prominent clinical symptoms throughout the course of the disease, grouped under their respective systems, may be very briefly dismissed.

Tegumentary system.—When the temperature is high the skin is hot and dry, but while the temperature is falling night sweats are frequent and profuse and the perspiration then has a readily perceptible and peculiar odour, which can hardly be described but which is easily recognised by those familiar with the disease. In long protracted cases the nails become brittle, break easily, and show transverse grooves corresponding roughly to pyrexial attacks. The hair, too, becomes dry and brittle and distinctly lighter in colour, or even grey. Towards the termination of the disease, or during convalescence, an extensive falling out of the hair takes place which is usually, but not invariably, followed by a complete renewal. Subcutaneous hæmorrhages of a purpuric rather than petechial type are seen in acute severe cases and are usually of ominous import. During convalescence desquamation occurs, usually extensive, sometimes limited to the hands and feet, and although the flakes are sometimes large more usually they are small and fine like bran.

Alimentary system.—The dorsum of the tongue is furred and white, the edges and tip are pink and moist, and the breath is offensive. The fauces and tonsils are often more or less congested; occasionally and in consequence the submaxillary and cervical glands are enlarged and tender. Constipation is usually present, although in severe and acute cases, also when the height of a pyrexial wave is reached, diarrhœa, with light-yellow pea-soupy motions, may be present. At the onset of an attack the appetite is poor and capricious, but provided due attention is paid to the condition of the bowels is good throughout the illness, solid food being readily digested even during the pyrexial periods. The liver is often enlarged. The spleen, except in very few cases, is slightly but distinctly enlarged and can readily be palpated, as its edge is well below the costal margin, while the organ itself is tender and soft during the height of the pyrexia, but firmer during the apyrexial intervals.

Nervous system.—The micrococcus Melitensis and its products appear to have a selective influence upon the nerve tissue, more particularly peripheral, but also central, and neuritis in some form or position is noted in quite 50 per cent. of the cases. The neuritis, usually of the sciatic, less frequently of the circumflex and peroneal nerves, commences suddenly and severely; the acute symptoms pass off rapidly—usually within from 24 to 48 hours—leaving a subacute or chronic affection of the nerve which may continue long after the convalescence has otherwise been established, particularly liable to exacerbations in response to alterations in atmospheric conditions. Cutaneous and deep reflexes are usually increased and areas of hyperæsthesia, especially over affected nerves, are far from rare, while in severe cases control over the sphincters may be abolished. In the long-continued attacks headache, insomnia, nervous prostration, and mental incapacity are common sequelæ and point to the effect of the disease on the central nervous system.

[1] Lecture I. was published in THE LANCET of June 13th, 1908, p. 1677.

Respiratory system.—This is usually unaffected. Pulmonary congestion secondary to the cardiac disturbance is sometimes met with. Pneumonia, generally due to secondary infection with the pneumococcus, also occurs. Occasionally a pneumonia primarily due to the micrococcus is noted, as in such cases where Fiorentini has recorded the presence of the micrococcus in the sputum. Pneumonia, followed by empyema where the pus from the pleural cavity contained no organism other than the micrococcus Melitensis, has also been observed.

Circulatory system.—Cardiac irregularity—palpitation—from trifling cause, is probably the result of implication of the vaso-motor nervous system, but may also be due to direct irritation of the cardiac muscle by the micrococcus and its products present in the circulating blood. The rate of the heart's action is somewhat, but usually not markedly, increased. Anæmia is a fairly constant and persistent feature. The red cells may fall as low as 2,800,000 per cubic millimetre; the hæmoglobin becomes reduced in amount but out of proportion to the fall in red cells, so that the *index globulaire* falls also; although there is sometimes a true leucopenia the white cells are relatively and sometimes absolutely increased, the increase being almost entirely confined to the non-granular leucocytes—the lymphocytes and hyaline cells.

Articular system.—Effusions into joints, particularly those of the shoulder, knee, and ankle, often occur in the course of the disease and the specific micrococcus has been isolated from the fluid (Gilmour, Kennedy). The costosternal and costochondral articulations are also frequently affected and these joints sometimes suppurate when the only micro-organism to be detected in the pus is the micrococcus Melitensis. But the "rheumatism" so frequently noted in Malta fever is in the majority of cases neuritis pure and simple. Effusion into tendon sheaths at the wrist and ankle is also sometimes noticed.

Urinary system.—The kidneys are generally unaffected, although occasionally acute nephritis is associated with the height of the early pyrexial attacks, when the urine is scanty, high coloured, loaded with uric acid and urates, and sometimes albumin is present, though generally not more than "traces" are found. During the apyrexial periods and in the very chronic cases the urine is generally normal.

Generative system.—The sexual system shares in the general nervous irritability and priapism is common, often, it is said, leading to masturbation. Orchitis and epididymitis are not uncommon metastases but are usually mild in character. Catarrhal vaginitis is sometimes observed. Dysmenorrhœa is often noticed during the incubation period and sometimes during the attack of the disease, but amenorrhœa is more frequent, not only during the pyrexia but also during the apyrexial periods; thus of 12 functionally active female patients in one ward, suffering from micrococcus Melitensis septicæmia, amenorrhœa was present in five, dysmenorrhœa in one, and in the remainder the catamenia were unaltered. Menorrhagia is more rarely observed; often the menstrual function is uninfluenced by the disease. Pregnancy frequently synchronises with an attack of Malta fever and its course is unaffected, although lactation is frequently curtailed. According to Schoull, loss of virility sometimes followed protracted cases, but the majority of observers agree that neither impotence nor sterility in either sex is noted during, or resultant upon, an attack of the fever.

Complications.—Hyperpyrexia and cardiac failure are the only direct complications of a serious nature. Pyogenic foci due to micrococcus Melitensis, although not unknown (Eyre and Fawcett), are by no means common, but the small furuncles which so frequently occur in the sweat-sodden skin are usually due to staphylococcic activity. With the generous assistance of many of my friends, including Staff-Surgeon G. E. Duncan, Staff-Surgeon H. C. Whiteside, and Mr. Gerald Sichel, who together have contributed more than half the total, I have analysed the clinical symptoms of 1000 cases of Melitensis septicæmia and have arranged them in tabular form. The temperature curve in every case has been assigned to one or other of the four types, but with regard to other features of the disease every case has supplied one or more symptoms, but no symptom has been included which has not been noted in at least five cases in the series. One's recollection of some particular cases suggests that the occurrence of many symptoms is underestimated; for instance, under the heading of "critical sweats" only such cases have been included where the sweating was so profuse as to necessitate "changing" the patient more than once in the course of the night.

Analysis of Clinical Symptoms in 1000 Cases of Melitensis Septicæmia.

	Per cent.
Pyrexia.	
Continuous	26
Intermittent	14
Remittent	58
Hyperpyrexia	2
Tegumentary System.	
Subcutaneous hæmorrhage (purpuric spots)	2
Critical sweats	31
Loss of hair	1
Change in colour of hair	1
Circulatory System.	
Anæmia—clayey-coloured complexion	30
Œdema of extremities	2
Epistaxis	6
Pericarditis	0·5
Endocarditis	5·0
Hæmic murmurs	5·0
Painful pulsation of large arteries	3·5
Palpitation	2·0
Nervous System.	
Exaggerated reflexes	4
Hyperæsthesia	6
Headache	54
Insomnia	9
Delirium	6
Impairment of memory	2
Peripheral neuritis	52
Neuritis of special nerves	42
Intercostal neuralgia	14
Paralysis	1
Alimentary System.	
Constipation	32
Diarrhœa	8
Vomiting	9
Anorexia	13
Respiratory System.	
Pleurisy	2
Pneumonia	3
Broncho-pneumonia	2
Bronchitis	12
Urinary System.	
Retention of urine	1
Hæmaturia	0·5
Albuminuria	8
Metastasis.	
Abscess formation	5
Epididymitis and orchitis	8
Parotitis	1
Arthritis and tenosynovitis	21
Visceral changes.	
Hypertrophy of spleen	51
,, ,, liver	8

MORBID ANATOMY.

It has already been remarked that the case mortality of Malta fever is extremely low. The records for the last seven years, during which the diagnosis of the disease has been universally based upon the serum reaction, show that the navy had 1705 cases with 30 deaths and the army in Malta 1947 cases with 55 deaths, an average case mortality of 2·3 per cent., or if we include the civil administration with its 4627 cases with 489 deaths we get a combined case mortality of 6·9 per cent. Under these conditions facilities for post-mortem observations are limited. The pathological appearances presented by cases of Malta fever may be summarised thus:—

Heart.—This is usually normal in appearance. Sometimes the cardiac muscle is pale, soft, and flaccid. Rarely it undergoes some slight fatty degeneration. Micrococcus Melitensis can be isolated from the heart's blood, though sometimes only in small numbers. Some alteration appears to take place in the walls of blood-vessels, which makes for ease of passage of red discs evidenced during life by ready bruising for trivial injuries, and often recalled post mortem by localised extravasations of blood at various points in the subperitoneal connective tissue. Possibly this is due to irritation of the vaso-motor system by micrococcus Melitensis toxins.

Pericardial fluid.—This is often increased in amount, clear or blood-stained; it usually contains micrococcus Melitensis.

Lungs.—These often show œdema and congestion of the bases and occasionally small patches of broncho-pneumonia.

Pleuritic fluid.—This is sometimes present in large quantities, but apparently the result of passive effusion rather than of acute inflammation. The presence of micrococcus Melitensis has not been recorded in this situation.

Alimentary canal.—Small areas of localised congestion are commonly found throughout the intestinal canal limited to the mucous membrane and the submucosa, occasionally

associated with very limited extravasation of red blood cells. Marston lays stress on this feature, which led him to apply the name gastric remittent fever of the Mediterranean to the disease. In very chronic cases, especially in those associated with diarrhœa, the mucous epithelium may undergo superficial necrosis resulting in surface denudation of small areas. Bruce, indeed, records one case in which he found definite ulceration of the colon. Cultivations prepared from the contents or with scrapings from the walls of the duodenum, jejunum, ileum, and colon usually fail to demonstrate the micrococcus Melitensis by reason of the numerous intestinal saprophytes present with it in these situations.

Liver.—Sudan III. shows the presence of very little fat in the liver and chiefly at the periphery of the acini. The organ is congested, slightly hypertrophied, and increased in weight (from 1415 to 2730 grammes), resembling an early cardiac liver. Micrococcus Melitensis is present in cultivations from hepatic tissue. The gall-bladder is usually distended, the bile often containing micrococcus Melitensis in fair numbers.

Spleen.—This is always hypertrophied, the size and weight varying somewhat in proportion to the acuteness of the attack (averaging from 57 grammes in very acute cases to 250 grammes in those of long duration, and spleens have been recorded weighing 594, 684, and 810 grammes), from dark red to black in colour, often showing numerous bright-red hæmorrhagic points and usually soft and friable. Micrococcus Melitensis is readily isolated from this organ.

Kidney.—This is sometimes congested but usually shows no abnormal appearances Occasionally the kidney is hypertrophied and pale, resembling the large white kidney of chronic Bright's disease. Micrococcus Melitensis is usually but not invariably present in this organ.

Urine.—This is normal in appearance and composition. Only rarely is albumin present; micrococcus Melitensis is often present, especially in those cases of long duration.

Mesenteric glands.—These are often enlarged—sometimes from 10 to 12 millimetres in diameter—spherical with injected capsule and semi-fluid purulent contents. Such glands often yield a pure culture of micrococcus Melitensis. In many cases, however, the mesenteric glands are normal in appearance and prove to be sterile.

Bone marrow.—Marrow from the long bones and also from the ribs, although normal in appearance, usually contains micrococcus Melitensis—often in considerable numbers

Brain and cerebro spinal fluid.—The cerebro-spinal fluid is often increased in quantity; in cases exhibiting meningeal symptoms markedly so, leading to flattening of the cortical convolutions. Ordinarily the brain and cerebro-spinal fluid appear normal. Micrococcus Melitensis does not appear to be present in the fluid.

[Dr. Eyre next proceeded to describe the morbid histology of the different organs, the chief changes being a great increase of lymphoid tissue in the spleen and in the bone marrow a marked increase in nucleated red cells and lymphoid cells—that is, giant cells, mononuclear cells, and lymphocytes, with a considerable diminution in the granular cells—i.e., myelocytes and polymorphonuclear leucocytes—the whole forming a typical lympho-erythroblastic bone marrow in marked contrast to the leucoblastic marrow associated with pneumococcic infections. He said further that one point on which all Italian observers were agreed as being the most striking feature of sections, not only of spleen but also of liver and kidney, was the presence of the numerous cells which they termed globuliferous cells, derived from the endothelium lining blood sinuses and containing in their interior from one to 15 or 20 red blood discs. In the spleen of a case examined by Carbone he said they were absolutely innumerable; those containing a few blood cells only were rare, those containing from eight to ten were common, and some were seen containing very many more. Dr. Eyre continued:]

DIAGNOSIS.

In the early stages of the disease the diagnosis from, say, malaria, enteric fever, miliary tuberculosis, acute rheumatism or septicæmia due to some other micro-organism by clinical symptoms alone is well-nigh impossible. Consequently the diagnosis of Malta fever is based upon (1) the agglutination reaction, that is to say, the agglomeration of the individual cocci present in a laboratory cultivation of the specific micrococcus by certain specific anti-bodies—agglutinins—present in the blood serum of the patient; (2) the isolation of the micrococcus Melitensis from the blood of the peripheral circulation; (3) the isolation of the micrococcus Melitensis from the splenic pulp; or (4) the isolation of the micrococcus Melitensis from the excreta (urine and fæces).

Agglutination Reaction.

Since the "serum reaction" test of Gruber and Durham was applied to the diagnosis of micrococcus Melitensis septicæmia by Wright in 1897 this method has been extensively employed; and it has been shown that the specific agglutinin may be present in the blood of patients suffering from the disease, from the fifth day onwards (Aldridge, Bassett-Smith, and Gilmour); exceptionally it is present on the first day; sometimes its appearance is delayed until weeks after the disease is well established. Usually it is present in large amount, giving to the serum a *titre* of 1 in 100 or 1 in 1000 even during the first week of the disease, whilst subsequently sera reacting in much higher dilutions even up to 1 in 500,000 have been observed. Moreover, it must be noted that the agglutinins persist in the blood long after recovery and the serum may react in dilutions of 1 in 50 and 1 in 100 for from three to seven or even ten years after an attack of the fever. Finally, sera from healthy individuals and from patients suffering from diseases other than Melitensis septicæmia never yield a complete reaction when tested in dilutions of 1 in 10 (Birt and Lamb), or a partial reaction when tested in dilution of 1 in 20.

The reaction may be observed macroscopically in the test-tube or in capillary pipettes, or microscopically in the hanging drop.

1. Where the supply of serum is adequate the test is best carried out by emulsifying one loopful (two milligrammes) of living agar culture in each of several small test-tubes each containing one cubic centimetre of the various dilutions of serum respectively and subsequently observing in which dilutions, if any, the delicate flocculi of agglutinated cocci form.

2. According to Wright the test is better carried out by aspirating (by means of a small rubber cap) small quantities of an emulsion of living cocci and of diluted serum into a capillary or sedimentation tube made from a piece of glass tubing, sealing the end in the Bunsen flame, and allowing the pipette to stand at the room temperature for 24 hours. At the end of this time it is compared with a control preparation consisting of equal parts of emulsion and salt solution or diluted normal serum. The mixture in the control pipette will still be opalescent and turbid, whilst that in the pipette containing specific serum will be perfectly clear as to the upper part and containing small pellets of agglomerated cocci at the lower extremity of the column. The test can also be carried out with the aid of watery suspension of dead micrococci but under these conditions it is distinctly less satisfactory.

3. Microscopically the addition of specific serum to an emulsion causes the micrococci to cease vibrating and to collect into large and small masses similar to, but much more tightly packed than, those noted in a similar preparation of specific serum and typhoid bacilli.

For the purpose of establishing the diagnosis I personally require a positive reaction in a dilution of 1 in 30 to 1 in 50, preferably the latter, within half an hour if microscopical examination of the hanging-drop preparation is relied upon or within three hours if the test-tube (macroscopical) is employed, or within 24 hours if the capillary pipette is used. Certain precautions must be observed in carrying out the test. The serum should be clear and free from red blood discs. The culture of micrococcus Melitensis used in the test should be one recently isolated from the human body (or recently passed through a laboratory animal) and grown on agar of + 8 or + 10 reaction and incubated at 37° C. for not longer than two or three days—a 24 hours old culture giving the most reliable results. If an emulsion is prepared for the sedimentation test, sterile distilled water, not salt solution, should be used for the purpose. A control consisting of equal quantities of emulsion and normal serum, or even normal saline solution, should invariably be employed for purposes of comparison. Old cultures, or cultures of the micrococcus many generations removed from the animal body, are prone to agglutinate automatically in the presence of normal serum, or normal saline solution, or even when simply suspended in distilled water. Most important of all, the observer must recollect that the so-called "pro-agglutinoid" zones are more common in micrococcus Melitensis septicæmia than, for example, in enteric—that is to say, a serum will yield a good reaction when tested against micrococcus

Melitensis in, for example, dilutions of 1 in 30, 1 in 40, 1 in 60, 1 in 80, but will fail completely to clump the cocci in dilutions of 1 in 50 or will react in dilutions from 1 in 50 upwards to 1 in 500 and fail to react in lower dilutions such as 1 in 10 and 1 in 20. The first case of the disease I personally diagnosed during a recent stay in Malta was one in which this phenomenon was well marked. Microscopically and with a 30-minute time limit a complete reaction was obtained in 1 in 50, 1 in 75, and 1 in 100. An incomplete one was observed in the 1 in 30 dilution and no trace whatever of clumping could be detected in the low dilutions of 1 in 10 and 1 in 20. The same dilutions put up simultaneously in sedimentation tubes when examined after 24 hours completely confirmed the microscopical results. Another good example of this phenomenon was afforded in another case where serum dilutions of 1 in 10, 1 in 20, 1 in 50, and 1 in 100 failed to produce any agglutination of the micrococci, while a 1 in 200 dilution caused instant agglutination, and within five minutes the clumps were sufficiently large and compact to be readily recognised by the naked eye. At the present moment there is no really satisfactory explanation of this phenomenon. Dryer has shown experimentally that the preliminary heating of emulsions of bacteria may so alter the agglutinable substance that "zones of inhibition" appear. On the other hand, Eisenberg and Volk note that sera which have been similarly heated (to 65° or 70° C.) likewise exhibit similar zones of inhibited agglutination which they explain by the assumption that part of the agglutinin has been converted by the heat into agglutinoid, which has a greater affinity for the agglutinable substance of the bacteria than has agglutinin. Dryer, however, from his experiments with heated emulsions refuses to accept this explanation, but all that he has to offer in exchange is that, in part at least, the phenomenon may be due to the "slowing of the velocity of the agglutination reaction." No matter what the explanation, it becomes obvious that it is essential to prepare and observe a *series* of dilutions in performing the test for diagnostic purposes.

Splenic Puncture.

As in Melitensis septicæmia the specific micrococcus is constantly present in the spleen its detection in this situation and its isolation therefrom afford the most certain method of diagnosis. Post mortem, of course, no especial difficulty is encountered. Intra vitam the procedure is simple enough and if carefully performed the risk incurred is not very great. In the vast majority of the cases of micrococcus Melitensis septicæmia the spleen is enlarged, perhaps only slightly, but still distinctly, and is readily palpable. Usually it is painless. Exceptions occur at the height of a pyrexial attack. After careful sterilisation of the skin over the enlarged spleen a sterile exploring needle of some 2 millimetres calibre (with syringe attached) is thrust into the centre of the organ and a small quantity of blood and soft pulp is drawn into the syringe, then transferred to the surface of a previously prepared agar plate, over which it is spread by means of a sterile L-shaped aluminium or glass rod, which is then further employed to prepare two or three other similar agar plates in series with the first. The entire set of cultures are incubated at 37° C. for from three to seven days, by the end of which time the micrococcus, if present, will certainly have developed colonies.

Blood Examination.

The specific micrococcus has been shown by various observers (Gilmour, Shaw, Smith) to be present in the peripheral blood in numbers varying from 1 per 5 cubic centimetres to 400 per 1 cubic centimetre as early as the second and as late as the 300th day of the disease, just as Durham had previously noted in the case of experimental laboratory infections in guinea-pigs and rabbits. The general results are shown in the following table:—

Cases examined.	Micrococcus recovered from—	Maximum number of cocci recorded per cubic centimetre.	Minimum number of cocci recorded per cubic centimetre.	Observer.
16	8	—	—	—
45	38	400	Less than 1	Gilmour.
103	69	256	,,	Shaw.
49	27	200	2	Zammit.
24	16	—	—	Bassett Smith.

The above shows 158 successful cultivations out of a total of 235 examined, or a percentage of 65·4. The number of cocci present, however, varied from 1 per 5 cubic centimetres to 400 per 1 cubic centimetre, so that it was often necessary to work with fairly large quantities of blood in order to secure cultivations of the organism; in some instances the agglutinating power of the patient's serum, which varied from 1 in 20 to 1 in 3000 in the different cases from which the micrococcus was recovered, was suggested as a factor probably having some bearing upon the relatively large amount of blood required in order to demonstrate the presence of the coccus.

A critical examination of the results obtained by Gilmour and Shaw leads one to the conclusion that the successful isolation of the micrococcus from the peripheral blood depends mainly upon factors other than agglutination or phagocytosis. Consequently for purposes of diagnosis I consider that the blood should be collected late in the day, when the patient's temperature certainly stands at a higher level than during the forenoon, and at or near the height of a pyrexial attack. Thus working on these lines and by employing the technique usually adopted in England—that is, by using a solution of citrate of sodium to prevent alteration in the freshly drawn blood—I was able to demonstrate the micro-organism in the peripheral blood (drawn from the median basilic or median cephalic vein) in much larger numbers in the three acute early cases which I examined (as will be seen from the table below). Consequently the cultivation of blood taken from a vein of the arm (median cephalic or median basilic) under strict antiseptic precautions holds out a fair prospect of success in the isolation of the specific coccus. The method to be adopted is to withdraw five cubic centimetres of blood into a sterile syringe already containing a few drops of 10 per cent. sodium citrate solution, transfer the citrated blood to a test-tube or small flask containing 45 cubic centimetres of nutrient broth, and incubate at 37° C. From the third to the tenth day of incubation an agar slope-tube must be inseminated from the broth culture and itself incubated for from three to seven days before a negative result can be recorded. The identity of the resulting growth must of course be confirmed by the ordinary bacteriological methods.

Isolation of the Micrococcus Melitensis from the Peripheral Blood.

Patient.	Day of disease.	Time of collection.	Temperature.	Agglutination value of serum.	Number of cocci per cubic centimetre of blood.
K.	7	7 P.M.	105° F.	1 in 2000	At least 1900
F.	38	7 P.M.	103°	1 in 200	10,000
K.	46	7.30 P.M.	103°	in 200	1000

Urine.

From about the fifteenth day of the disease in chronic cases and towards the end of an attack in more acute cases, and onwards during convalescence, many patients pass the specific cocci in varying numbers in the apparently normal urine, so that surface plate cultures prepared from the centrifugalised deposit of a catheter specimen of the urine suffices for the isolation of micrococcus Melitensis. In many instances the number of cocci present in the urine is so great that centrifugalisation is unnecessary and the surface planting on plate cultures of a drop of the urine itself will yield a vigorous growth of the coccus. Two ambulatory cases (workmen in the Royal naval dockyard, Malta) which were transferred by Staff-Surgeon Shaw to me for further observation, excreted the coccus for months in numbers varying from 440 to 30,000 or more per cubic centimetre, and in order to obtain countable plates it was necessary to dilute the urine, not to concentrate its bacterial content by centrifugalisation. If, on the other hand, it is feared the number of cocci present in the urine is small the prospect of the successful isolation of the coccus is heightened if some specific agglutinating serum is added to the urine previously to centrifugalisation.

Fæces.

In the course of some experiments upon acute micrococcus Melitensis infections in the guinea-pig I was able to demonstrate the presence of the organism in the gall-bladder and intestinal canal and tracing it down from the duodenum to

the rectum finally isolate it from the fæces. The number of observations in this direction that I have been able to make in human patients is limited to eight. Seven of these were cases of the chronic type and the motions were firm and formed, and plating experiments failed to demonstrate the presence of the micrococcus. In one fatal case (of one and a half months' duration) the colon was found post mortem to be filled with light-coloured semi-fluid fæces and the plate cultivations yielded a very mixed growth of a large variety of bacteria, including the micrococcus Melitensis. By emulsifying some of the growth in saline solution, precipitating the micrococci by the addition of a powerful agglutinating serum, and again plating the sedimented micrococci I was able to obtain it in pure culture.

PROGNOSIS.

The prognosis of Malta fever, so far as life is concerned, is good. The mortality of the disease as recorded in army and navy statistics reaches not more than 2 per cent. of the case incidence; but indications upon which to base a prognosis as to the duration of an attack are usually conspicuous by their absence. Speaking generally, an attack commencing with acute symptoms, one or two sharp pyrexial attacks accompanied by high agglutination reaction and a gradual increase in the amount of specific agglutinins in the blood, will be of shorter duration than one when the pyrexia is slight and the agglutinating reaction low or gradually diminishing in intensity. On working out the duration of a large number of cases of Melitensis septicæmia under treatment in naval and military hospitals, together with many others seen in civil life (including those still suffering from various sequelæ after their discharge from the services), one may safely say that not more than 10 per cent. are convalescent in a shorter period than one month from the onset of symptoms. In 50 per cent. the disease extends over two months, in 25 per cent. to three months, and in fully 15 per cent. a duration of three months is exceeded.

Second attacks.—As an apyrexial period of very extended duration may still be followed by a relapse, and as the diagnosis prior to 1900 or 1901 was usually made upon clinical grounds only, any dogmatic statement on the subject of second attacks of Melitensis septicæmia would be distinctly premature. Moreover, the opinions of naval and military surgeons elicited by my inquiries are diametrically opposed. The former consider that an attack confers little or no subsequent protection; the latter are inclined to believe that considerable, if not absolute, immunity is conferred by one attack of the disease. Personally, I believe one attack does confer a certain slight amount of immunity—an opinion which derives some support from the fact that records of authenticated second attacks are very rare. That second attacks do occur I am convinced from my own personal experience. In 1903 I suffered from a sharp attack of the septicæmia, lasting in all about three months, resulting from accidental inoculation in the laboratory. During the next two and a half years I remained in perfect health, my agglutination reaction gradually fell to 1 in 50, and I was passed as a first-class life by a life insurance office. Shortly after my arrival in Malta in 1906 I took a perhaps too active part in the cleansing of the Mediterranean Fever Commission's laboratory (as I had found that the accumulated dust of the room contained the micrococcus Melitensis), and shortly after the agglutination reaction of my serum sank and I found that I was more or less out of sorts—headaches and occasional evening temperature of 100° F. which might merely have been the result of the associated constipation but which culminated in sudden effusion into both ankle-joints, necessitating several days in bed. The effusion gradually subsided and a sea trip to Naples and back restored matters to the previous state of occasional headache and occasional pyrexia and night sweats for another month, when acute pyrexia of 104·5° F. ushered in a severe relapse and it was not until some six months later that convalescence was fully established.

TREATMENT.

Drugs.—Of drug treatment of Melitensis septicæmia *per se* there is none. Osler puts the matter so concisely that I cannot do better than quote the few lines in which he disposes of the subject. "Hydrotherapy, either the bath or the cold pack, should be used every third hour when the temperature is above 103° F. Otherwise the treatment is symptomatic. No drugs appear to have any special influence on the fever. A change of climate seems to promote convalescence."

IMMUNITY AND SERUM TREATMENT.

Prophylactic vaccination.—In experimental animals, such as the rabbit and guinea-pig, long-continued treatment by injections of "killed" cultures of micrococcus Melitensis provokes the formation and maintenance of a high agglutinative power in the blood, but such inoculations not only fail to protect the animal against the fatal consequence of a subsequent injection of virulent living culture but in some cases appear to render the animal more susceptible. The one observation in this direction recorded in man has a similar bearing. After several preliminary vaccinations with dead cultures of micrococcus Melitensis a small quantity of living culture injected subcutaneously into the arm was followed after 15 days by a typical attack of the fever (Birt and Lamb). The probable value of preventive vaccination has not, therefore, the experimental support that is available in the case of other diseases. Nevertheless, during the summer of 1906 I carried out a series of vaccinations with dead cultures amongst the attendants in the naval and military hospitals of Malta which, it was hoped, would afford further information on this point.

Dose.—The initial dose varied slightly in individual cases, but was either two, three, or four hundred millions of cocci. Subsequent doses were regulated by the response of the individual to inoculation, as judged by the movements of the curve representing the agglutinin-titre of the serum, but were usually 400,000,000 cocci. In many of the cases two inoculations were given at suitable intervals.

Sequelæ of inoculations.—But few words are necessary as to the local and constitutional effects following the introduction of the dead bodies of micrococcus Melitensis into the subcutaneous tissue of the normal human subject, as observed in these 51 men.

Local appearances.—The introduction of such a small quantity of fluid into the subcutaneous tissue produced no immediate effect other than a slightly marked prominence of the skin at the seat of inoculation. Usually the emulsion was completely absorbed within a few hours and on the morning following the inoculation no local alteration was discernible. In three of the orderlies of the Royal Army Medical Corps the first inoculation was followed by a very distinct, hard, tender lump at the seat of inoculation, the skin over the swelling being red and slightly œdematous. Some tenderness of the inguinal and axillary glands was present so long as the lumps remained tender, but this passed off rapidly when the swelling had disappeared. In all three cases the swelling subsided without interference, the duration of a visible tumour being limited to two or three days respectively in the first two cases. In the third the lump, which was on the right side, remained visible and tender for seven days and was probably due to the fact that the subject—an ardent cricketer—was on bowling for practically the whole of the afternoon following inoculation. Inoculations subsequent to the first failed to cause any discomfort. The inguinal glands in many were slightly tender for the 24 hours following an injection, but not longer.

Constitutional symptoms.—Beyond slight headache and feeling of malaise, associated with a rise of temperature to 98·6° or 99°, complained of by a few on the day following inoculation, no constitutional symptoms were observed. Two of the controls, however, who had been injected with normal saline solution complained of severe headache and showed temperatures of 99·6° and 99·8° respectively on the day following the injection. It will thus be seen that none of the disquieting results recorded by Lieutenant L. Bousfield, R.A.M.C.,[2] were noted in this series of inoculations. That they do occur, however, was well shown in the case of one of the members of the working party who was inoculated by Lieutenant-Colonel W. B. Leishman, R.A.M.C., immediately prior to leaving England. Marked enlargement, accompanied by tenderness on pressure of the superficial lymphatic glands, was observed within 24 hours of inoculation, together with some headache and malaise. The seat of inoculation was occupied by a raised, hard, and tender lump, which gradually became soft and boggy to the touch, and the skin over it acquired a dusky-red colour. As there was every evidence of pointing, the tumour was incised on the eleventh day and some thin serous pus, which proved sterile, was evacuated; and no higher dilution of the blood serum than 1 in 10 would give a positive agglutination

[2] Bousfield: Some Remarks on Protective Inoculation against Malta Fever, Journal of the Royal Army Medical Corps, vol. vii., 1905, pp. 179-182.

reaction. Later on an injection of the same brew of vaccine that was used in the series of prophylactic vaccinations now under consideration was introduced into the opposite flank. This was followed by a precisely similar train of events, although on this occasion the symptoms were distinctly less severe; the agglutination response on this occasion rose to 1 in 40.

The subjects.—Naval.—Of the staff of the Naval Hospital at Bighi 43 men were available for observation in this connexion, of whom 23 were vaccinated (seven on one occasion only and 16 on two occasions) and 20 were reserved as controls. From the 23 vaccinated men, however, two must be deducted, for the danger that must always exist in carrying out a series of vaccinations within the endemic area was here encountered and two of the men were vaccinated—each with a dose of 200,000,000 cocci—during the *incubation period* of the naturally acquired disease. This leaves 21 inoculated men and 20 controls who were under observation from April 27th to August 30th, 1906. During this period one of the controls contracted the disease, but no cases occurred amongst the vaccinated men.

Military.—The strength of the Valetta detachment of the Royal Army Medical Corps at the commencement of the experiment comprised 84 men, of whom 12 had already suffered from an attack of "Malta fever" and four were then in hospital. This left a balance of 68 available for the purposes of observation. Of these 30 volunteered for inoculation; the remaining 38 served as controls. The fallacies involved in such a division have already been threshed out in connexion with prophylactic inoculations of typhoid vaccine, and need not be further enlarged upon here. Suffice to say, that of the inoculated men 15 received one injection only and 15 received two injections; and during the four months from April 26th to August 30th, 1906, two cases occurred amongst the non-vaccinated controls and none in the vaccinated men. At the beginning of September, however, after I left Malta, two cases occurred in the vaccinated men. The first, a lance-corporal, an assistant in the Commission Laboratory at Valetta, who had been injected twice with a dose of 400,000,000 cocci on each occasion and whose serum value had reached 1 in 50, suffered a typical attack, and the second, a private, who had been inoculated once only with a similar dose and whose serum had a value of 1 in 30. In this series of inoculations it was noted that the response of the individual as judged by the movements of the agglutination value of the serum varied within wide limits from a positive reaction in a dilution of 1 in 200 to a negative reaction in a dilution of 1 in 5 as a result of the first injection. A further point was the very distinct fall in the *titre* of the serum that has taken place by the end of the four months, in one case from 1 in 200 to 1 in 10, showing that the individual response to vaccination, so far as relates to the production of antibodies of the agglutinin group, at any rate, is limited to a comparatively short period, and apparently indicates that a further inoculation is necessary at the end of about three months after the first or second. The immunity of the inoculated men during a period of four months from any attack of Melitensis septicæmia, though possibly due in part to the elimination of the "goat's milk" factor, also indicates to my mind that prophylactic inoculations have a distinct value.

Anti-serum.—In 1895 Wright infected goats and in 1896 a horse was inoculated with Micrococcus melitensis in the attempt to produce an anti-serum, and about 50 cases seem to have been treated with the serum from the horse (Aldridge, Fitzgerald, and Ewart), but the published cases do not offer any very convincing evidence of the value of such serum. In connexion with the use of serum a word of warning is necessary, as in the immunisation of both goat and horse I have noted that after the injection of living cultures the cocci are present in the blood from four to six weeks, and if the animal is bled during this period living cocci can be demonstrated in the serum by inoculating some 10 to 20 cubic centimetres subcutaneously into the guinea-pig. In the case of a horse which had been treated for a period of 11 months, with first dead and subsequently living cultures of micrococcus Melitensis, 0·1 cubic centimetre of the serum (which had an agglutinating value of 1 in 1500) was found to protect when injected simultaneously into the cerebral tissue of the guinea-pig against some ten lethal doses, but even 10 or 20 cubic centimetres of serum injected subcutaneously failed to protect against an identical dose of the virus injected into the brain.

The action of the serum was also tested upon monkeys previously injected subcutaneously with 0·1 loopful of cultivation of micrococcus Melitensis emulsified in one cubic centimetre of normal saline solution. Eight days later, when signs of successful infection—rise of temperature, appearance of agglutinins in blood, &c.—were apparent, two were set aside for observation as controls; three others each received three cubic centimetres of horse serum subcutaneously daily for eight days and a fourth received three cubic centimetres of horse serum injected directly into the external saphenous vein daily for a similar period. The result was by no means encouraging, for while one of the monkeys showed a comparatively even temperature and an absence of marked pyrexia that might be attributed to the action of the serum, the charts of the remaining three serum-treated monkeys showed no mark differences, so far as concerns the range and duration of pyrexia, from those of the two controls, while throughout the course of the experiment simple visual observation of the infected animals was insufficient to enable one to distinguish between those treated with serum and the controls. Whilst in Malta I was only able to obtain permission to administer serum to one human case, but beyond steadying the pulse and bringing it down from 108 to 96 per minute, a result which, in my own opinion, might equally well have been achieved by a simple injection of normal saline solution, no further effect could be detected.

A Clinical Lecture
ON
CONGENITAL DISLOCATION OF THE HIP AND ITS TREATMENT.

Delivered at the Hospital for Sick Children, Great Ormond-street, on Dec. 12th, 1907,

BY H. A. T. FAIRBANK, M.S. LOND., F.R.C.S. ENG.,

SURGEON TO OUT-PATIENTS AT THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET; ORTHOPÆDIC SURGEON TO CHARING-CROSS HOSPITAL, ETC.

LADIES AND GENTLEMEN,—I do not think I need apologise for making congenital dislocation of the hip the subject of my lecture to-day, as the frequency of its occurrence warrants us in paying considerable attention to its pathology and treatment. The work of Paci, Hoffa, Lorenz, and others has given us a sound knowledge of the morbid anatomy of the deformity and enabled us to treat it with considerable success. Let me first remind you of some facts relating to its occurrence before passing on to its pathological anatomy, a knowledge of which is essential if our treatment is to be scientific and successful.

Congenital dislocation of the hip is far commoner in females than males; Young has collected figures from various sources and gives 3113 cases, with 456, or 14 per cent. in males, and 2657, or 86 per cent. in females—i.e., about one male to six females. Two-thirds of the cases in this series were unilateral and one-third bilateral. When unilateral the left hip is slightly more frequently affected than the right. Young gives 637 right and 799 left.

The etiology of this deformity need not detain us for long. We may admit at once that the cause is unknown. That heredity sometimes plays a part is shown by the numerous instances reported of the deformity occurring in more than one member of a family. Dupuytren mentions the case of a girl who had eight relatives similarly affected. As to the preponderance of females over males affected, the former are said to be more prone to deformities of all kinds. Heusner and Marcwald found that the capsule of the hip-joint was more lax in female than in male fœtuses. That arrest or defect of development is the essential factor in the majority of cases, whether traumatism in utero or at birth plays a part or not, is, I think, proved by the frequency with which imperfect development of the pelvis and often of all the bones of the leg accompanies the dislocation, to which further reference will be made later.

PATHOLOGICAL ANATOMY.

The condition of the joint will be found to vary according to the age of the case; the older the child the greater the alteration found in all the structures composing the joint.

In infants the difference from the normal is slight, though one change, and that the most important in this deformity at all ages, is always present, and that is a want of development of the upper lip of the acetabulum. So far as the bony margin is concerned this poorness of the upper lip of the acetabulum is shown in x-ray photographs of two of my cases, aged respectively 18 and 19 months. The acetabulum is at first circular and perhaps a little shallow. The capsule is thin and somewhat distended by a slight excess of fluid. The pelvis on the affected side shows some general want of development and distortion. The femur is normal; the ligamentum teres is rarely absent. After walking has commenced the changes in the bones get progressively more marked. The acetabulum gradually becomes triangular in outline, with the apex upwards and backwards, where the margin of the cavity is imperfectly developed and where the true and the false joint cavities join. The capsule is now thickened as a result of nature's effort to resist further migration of the head of the femur. The thickening is most marked in the lower and anterior parts of the capsule, while it also includes the Y ligament. Another change in the capsule, the importance of which was emphasised by Burghard in 1901, is the so-called "hour-glass contraction." This contraction takes place at the junction of the lower part of the joint cavity, formed by the acetabulum and the lower part of the capsule which covers it like a lid, and the upper part formed entirely of capsule surrounding the displaced head of the femur. This constriction is crossed, and perhaps increased, by the ilio-psoas tendon. When the upper part of the capsule is opened a slit-like opening into the acetabular part of the joint is seen; this has been aptly likened to the pockets often seen inside a brougham. It is the small size of this opening as compared with the head of the femur that constitutes one of the chief difficulties in reduction of the dislocation. The upper part of the capsule i.e., the part surrounding the head of the femur, becomes blended with the periosteum of the dorsum ilii, where a new socket may eventually be formed, but this is rarely developed to any great extent before adult life. The condition of the ligamentum teres may be briefly referred to but is of no practical importance. Suffice it to say that in the younger children it is rarely absent, whereas in the older children it is commonly absent, and when present it is thin and flat. The femur is often well formed, the most obvious thing about it being the size of its head, which is disproportionally large as compared with the acetabulum; but, as will be shown later, the upper end of the bone is almost invariably imperfectly ossified as compared with the bone of the opposite side. The head is flattened on its posterior and lower aspect and this flattening increases as the child grows, till, with the formation of new bone around the point of pressure, the head becomes mushroom-shaped. This flattening is seen in this specimen from the Charing Cross Hospital Museum; the acetabulum will be noticed to be triangular. The acetabulum is always present at birth and its obliteration later, when the dislocation is left unreduced, would seem to be a matter of extreme rarity. In this connexion I may refer to two specimens. The first is in the Museum of the Royal College of Surgeons of England (No. 1766A) and is that of the pelvis and parts of the femora of a woman, aged 60 years, the subject of bilateral congenital dislocation of the hip. The case had been described nearly 40 years before her death by Carnochan as a congenital case. There is a definite acetabulum on both sides. The other specimen is that of a bilateral case in which the acetabulum on both sides is replaced by a bony projection. Wax models of the two joints in this case were presented to St. Mary's Hospital Museum by Mr. Stansfield Collier, who saw the specimen in the Dupuytren Museum in Paris and kindly told me about it. Rarely the head and neck degenerate into a mere conical process and may even be entirely absorbed. The neck is often short, and may be depressed, producing the condition called coxa vara, but this is, I believe, by no means common, while an opposite condition, coxa valga, may occasionally be present. A far more common occurrence—in fact, it might be said to be always present to a slight degree—is an increase of the angle made by the axis of the neck of the bone with the transcondylar line, what is usually called "anteversion" of the neck of the femur. When the leg is placed with the patella looking forwards and the transcondylar line transverse, the neck of the femur is normally directed inwards, upwards, and slightly forwards. In a case of congenital dislocation with the leg in the same position, the neck of the femur may point nearly or even directly forwards. According to Lange the twist takes place in the upper part of the shaft, the whole of the upper extremity being turned forwards. The degree of anteversion present is considered by many to determine whether the result of operative treatment shall be completely or only partially successful. The shaft of the bone is usually thinner on the side of the dislocation and may be shorter.

The pelvic deformity, apart from the changes in the acetabulum, is not of much practical importance, as even in bilateral cases little, if any, obstruction to delivery is offered during labour. I should like, however, to emphasise the fact that the pelvis on the side of the dislocation almost invariably shows signs of imperfect development and ossification, and this occurs, as already stated, even in infants, showing that the deformity is not by any means limited to the hip-joint itself, but usually involves half the pelvis and sometimes the whole lower limb. Owing to the kindness of my colleagues on the staff of this hospital I have been able to examine the x ray photographs of their cases as well as those of my own. The photographs have been taken by Dr. Morton W. Smart and Dr. W. Ironside Bruce, a former and the present radiographer to the hospital respectively. To Dr. Bruce, who has also photographed my cases at Charing Cross Hospital, I wish to offer my sincere thanks for the care and trouble which he has taken in providing me with radiographs of the cases during and after treatment. I have been able to note the details of the skiagraphic appearances in nearly a hundred cases (94), of which 67 were unilateral. The appearances in typical unilateral cases is shown in this skiagram (Figs. 1 and 2). The os innominatum on the affected side is slightly smaller from top to bottom than the other (65 per cent. of the cases), and the conjoint rami of the pubis and ischium show imperfect ossification (92 per cent.). This delay in ossification usually shows itself as an increase in length of the piece of unossified cartilage between the two rami, but when the cartilaginous interval has disappeared the conjoint rami are thinner and more transparent than those of the opposite bone. The acetabular outline is less definite and the upper lip is more feebly developed. (Occasionally the upper lip is fairly well developed; this was so in 16 per cent. of the plates examined, but very rarely are the two acetabula symmetrical.) The ossific centre for the head of the femur is small as compared with the other (83 per cent.), and this is often true of the centre for the great trochanter. The head lies almost in the line of the shaft of the bone. The whole upper end of the bone is less dense than the other and the shaft of the bone is thinner; this last was observed in 68·6 per cent. Of the anteversion of the neck of the femur it is impossible to speak from an examination of skiagraphs, as the position of the leg at the time the photograph was taken is known in but a few of the cases. The skiagraph should be taken with the patellæ directed forwards, or better still, two plates should be taken, one as above and the other with the legs inverted. I am well aware of the difficulties attending the reading of skiagraphs, but I feel sure that most of the above conclusions would be verified by dissection. The measurement of the pelvic bone from above down could certainly be altered by the tilt of the bone, but the conjoint rami are certainly not altered in direction sufficiently to explain the appearances seen. The general clearness of the bones on the affected side could not, I think, be entirely explained by difference in the relative position of the sensitive plate on the two sides. Definite coxa vara was only seen twice and coxa valga three times; coxa vara of the other femur was noted in three plates, coxa valga in two. In one case the shaft of the dislocated femur was thicker than that of the other.

Bilateral cases show similar changes, though these are naturally not so obvious in the absence of a normal side for comparison. Not often are the two sides absolutely symmetrical. The head of one femur is more displaced or anteversion is more marked on one side. In 27 plates of bilateral cases obvious asymmetry of the acetabula was noted only twice and a difference in the size of the shafts of the femora six times. Of these six cases in three the left femur was the thinner of the two, and in one the right, and in the remaining two the side could not be determined. Of these 94 cases, all of which were below the age of 12 and the majority below the age of eight, in only three of the unilateral and four of the bilateral did the x rays show any signs of the formation of a new socket.

As to the muscles around the joint it must be remembered that few consist of parallel running fibres, but that in the majority the fibres radiate. Take the adductor magnus, for

instance. The upper fibres of this muscle are horizontal, the lower nearly vertical; in congenital dislocation the former are lengthened, the latter shortened (Jackson Clarke). But we have only to think of the short fibres, as these alone will offer resistance to reduction; so for practical purposes a muscle of which some of the fibres are short may be reckoned as being a short muscle. The short muscles are the adductors, hamstrings, psoas and iliacus, rectus femoris, and tensor fasciæ femoris. The obturators and gemelli are lengthened. Some fibres of the glutei are shortened, therefore they may be considered as short muscles.

The head of the femur may be displaced upwards and backwards, or upwards and forwards, or forwards only. The first is by far the most common variety; at first the displacement is chiefly upwards, but later backwards as well. The second variety, the subspinous variety, is rare; I have observed it only once in 53 cases; and the last, the pubic form, is excessively rare. As a rule there is no other gross deformity in a patient with congenital dislocation of the hip. A general laxity of ligaments may be present, and occasionally a number of other deformities. Among 53 cases I have found two with genu recurvatum, one with genu valgum, four with talipes valgus, one with hemiplegia, and one with cleft palate. In two cases, both bilateral, several congenital deformities were present; one had double genu valgum with rigid knees, double talipes calcaneo-valgus, and double inguinal hernia; the other had hydrocephalus, spina bifida, paralysis of the legs with rigidity of the knees, and double talipes equino-valgus.

SIGNS AND SYMPTOMS.

The general rule that nothing wrong is noticed till the child begins to walk is not absolute, as occasionally the parents notice something wrong with the position or shape of the leg soon after birth; in one of my cases the parents noticed the deformity when the child was only two weeks old. When walking is commenced the child is noticed to limp, and this limp gets progressively worse. Usually the child puts the heel to the ground and sways over the hip as she leans her weight on it in a characteristic manner; occasionally only does she make up for the shortening by walking on her toes. In one of my cases the child seemed afraid of trusting to the short leg and hurriedly came down on the foot of the normal leg with a thud. These children get tired easily; and as they get older undoubtedly suffer from pain in the affected joint. On stripping the child the difference in the contour of the two sides in the region of the trochanters is at once obvious. The buttock is flat and the whole thigh may be a trifle thinner than the other. Lordosis is only present in unilateral cases in the older children and then never to the extent seen when the deformity is bilateral. On laying the patient on a couch the leg is noticed to be short; a tape may show this to amount to anything from one-half to two inches in children under 12 years of age. The trochanter is displaced upwards and usually backwards. The best way to estimate the relative positions of the trochanters is to stand on one side of the patient, facing the head of the couch, and to place the two thumbs on the anterior superior iliac spines and to feel the trochanters with the tips of the first and second fingers. If one cannot be sure of any difference between the two sides by the use of the hands alone, and it is only in the younger and fatter children that there is any difficulty, I doubt whether Nélaton's or any other line is likely to be of assistance. I hardly ever make use of Nélaton's line in children. An abnormal hollow can sometimes be seen, and always felt, in Scarpa's triangle over the position which the head of the femur ought to occupy. There is often a concavity on the inner side of the thigh just below the pubes and asymmetry of the groove between the labium and thigh. In bilateral cases there is a gap between the upper parts of the thighs. A slight fulness can often be seen below and to the outer side of the anterior superior spine. The fingers or thumb will feel an undue resistance at this spot. The swelling and resistance are caused by the misplaced head of the femur, and in the majority of cases this is felt at the spot indicated—namely, below and to the outer side of the anterior superior iliac spine and in front of the great trochanter. The position of the head may be verified by placing the fingers and thumb of one hand over the great trochanter and head respectively, while the leg is gently rotated out and in with the other hand. The head of the bone will be felt to impinge upon and thrust out the thumb as the femur is everted. On this the diagnosis practically depends. In older children and in those with a great deal of shortening the head may be on a level with or even above the level of the anterior superior spine. Do not imagine that the older children with a larger amount of shortening necessarily have the greater amount of displacement of the femur. This is not by any means invariably the case. A big child may have from an inch to one and a half inches of shortening and yet the head of the femur be only just above the level of the acetabulum, some of the shortening being due to the bones, and *vice versâ* a young child with even less shortening may have more displacement of the bones. There seems to be no obvious reason why in one case the displacement should become progressively greater and in another remain almost stationary, unless it be that the power to thicken the capsule and resist further displacement depends upon the general health and muscular tone of the sufferer.

To return to the signs of this deformity, the movements of the limb are free, smooth, and painless, and are sometimes too free, but are more commonly limited in one or more directions, particularly if an unsuccessful attempt at reduction has been made some months previously. The two directions in which movement is commonly limited are abduction and internal rotation. In more than half my cases abduction was more or less limited; in 22 out of 39 unilateral cases. In 10 cases internal rotation was limited, in most of these only to a slight degree, but in some to a marked extent. In one only was external rotation limited. This was in a girl aged seven years in whom the leg was inverted, and both internal and external rotation were limited; abduction was only slightly limited; the shortening amounted to one and one-eighth inches; and the case had had no treatment.

The last sign I wish to refer to is what is usually described as "telescopic movement." Great stress has been laid on the importance of this sign, but I venture to think that it is more difficult to make sure of and therefore less reliable than that of feeling the head of the femur in its abnormal position. It is, however, a valuable confirmatory sign and one which should always be examined for. This undue mobility of the femur on the pelvis in a downward and upward direction tends to become restricted as the displacement increases. It can be entirely destroyed by voluntary effort on the part of the patient and is always most marked when the child is anæsthetised.

In bilateral cases the symptoms and signs are similar and in most cases more marked. The gait is, of course, worse and is quite characteristic. The trochanters can sometimes be seen moving backwards and forwards as the child walks. In some the pelvis is held remarkably steady and horizontal while the swaying all takes place in the lumbar spine. As stated above in reference to the x ray appearances the deformity is rarely symmetrical. Of 13 bilateral cases nine showed asymmetry. In six the left leg was the shorter of the two, in three the right. The shortening varied from one-eighth to five-eighths of an inch.

Lordosis is usually present, often to a marked degree, though it may be but slight even in older children. I found it slightly marked in two children of eight and nine years of age respectively. Abduction and internal rotation are both more likely to be limited in bilateral than in unilateral cases.

There seems no doubt but that, as a rule, the deformity is more severe and the changes in the bones and soft parts are more marked in bilateral than in unilateral cases. The difficulty in walking and the disfigurement are undoubtedly much greater in the bilateral cases. Before passing on to discuss the treatment it would be as well to consider for a moment what is the fate of these cases if left untreated.

Are we justified in operating upon these cases? We can safely answer this in the affirmative and say that we are justified in endeavouring to cure these patients because, as I hope to prove to you later, we can offer them a fair prospect of cure and almost certain amelioration. It is not often that one comes across an adult with congenital dislocation of the hip, so one is obliged to try to form an unbiased opinion from the writings of others. After fairly extensive reading I feel convinced that in the vast majority of cases the deformity is a very real handicap to the sufferer. The shortening and other signs increase during adolescence and then often the progress is checked and the joint becomes firmer as a new acetabulum is formed. The ungainly gait persists and the patient is troubled with attacks of pain in the joint, often necessitating retirement to bed, no doubt due to arthritic changes in the new joint. A bilateral case

FIG. 1.—Unilateral dislocation in a girl, aged two years and eight months. Note the size of the centre for the head of the femur, the thinness of the shaft, the imperfect acetabulum, and the imperfect ossification of the conjoint rami.

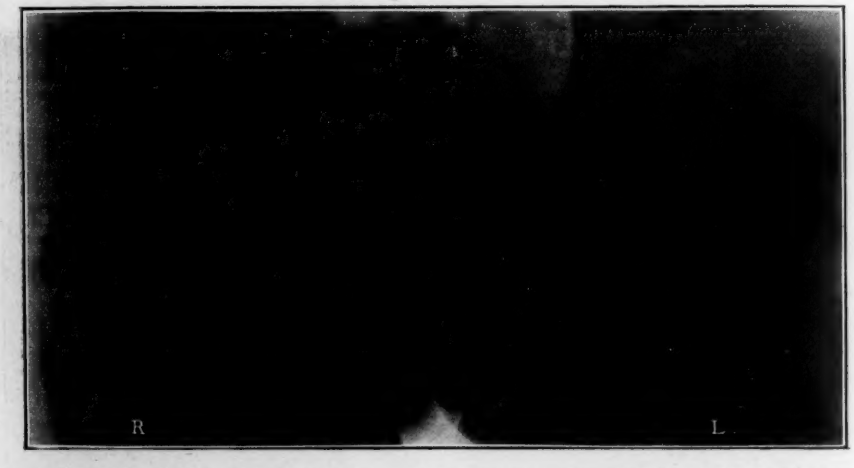

FIG. 2.—Unilateral dislocation in a girl, aged seven years. Note the imperfect development of the head of the dislocated femur, the flattening of the head, the small size of the trochanteric centre, the thinness of the shaft, the thinness of the conjoint rami, the feeble upper lip of the acetabulum, and the transparency of the bones on the side of the dislocation.

FIG. 3.—Unilateral dislocation in a girl, aged four years, two days after reduction by Lorenz's method. The joint itself is not covered by the plaster cast, the limits of which are distinctly seen at p p.

FIG. 4.—Appearances nearly five years after reduction of the left hip by Lorenz's method. Girl aged four years at time of operation (January, 1903). The legs are now equal in length, though the left shaft is much thinner than the right, as could be seen in the lower part of the skiagram, not reproduced.

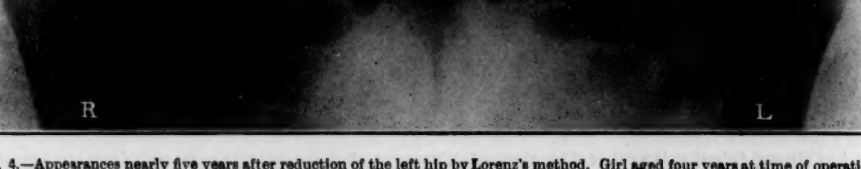

FIG. 5.—Skiagram taken four and a half years after reduction of the left hip by Lorenz's method. Operation April, 1903. Girl aged nearly three years at time of operation. The legs are now equal in length.

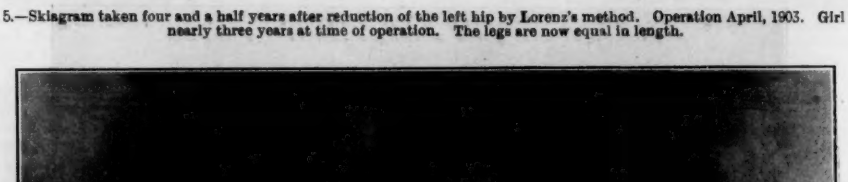

FIG. 6.—Skiagram taken three and a half years after reduction of the right hip by Lorenz's method. Operation April, 1904. Girl aged three years at time of operation. The right leg is the longer of the two, the left having become partially paralysed.

may be so crippled that she cannot get about without crutches.

TREATMENT.

In children there are two methods of treatment in vogue at the present time. One is the so-called bloodless or manipulative method and the other is reduction by means of an open operation, while a reduction may be effected by a combination of the two. The bloodless method is usually associated with the name of Lorenz and below it will be referred to as the Lorenz method. Of the open method there are two varieties, the Hoffa-Lorenz operation, in which the bones are attacked and an attempt made to improve the size and shape of the acetabulum, and the method practised and described by Burghard and in which the joint is opened, the hour-glass contraction dilated, and the head of the femur placed in the acetabulum beneath the eye, no attempt being made to improve the shape of the bones. Burghard, while not denying the use of the manipulative method in "quite young children," advises that after five it should be supplemented by an open operation a week later.

The Hoffa-Lorenz open operation is now pretty generally condemned on account of the risk of ankylosis occurring. Whether we follow Lorenz or Burghard we endeavour to place the head of the femur in contact with the acetabulum and to keep it there by fixing the limb in a suitable abnormal position for a length of time sufficient to allow the parts around the joint to consolidate, so that when the limb is allowed gradually to assume its normal position redislocation does not occur.

It is, of course, essential that a true anatomical reduction should be obtained at the time of operation but it is no less essential that the limb should be fixed in plaster-of-Paris for a sufficient length of time afterwards, six months at least, if a permanent successful result is to be obtained. In the out-patient department I have come across a fair number of cases which had been previously submitted to operation by various surgeons in various hospitals and I feel convinced that many of the unsuccessful operations owe their failure to the fact that the limb has been brought down parallel to the other too soon. Too often a successful operation has been wasted for want of proper after-treatment. It does not matter what method of reduction has been made use of, the joint must be given time to consolidate. If the bones have not been damaged there need be no fear of ankylosis occurring. Much has been written on the relative dangers of the two operations. There are special dangers attached to both methods, of which more will be said later. Suffice it to say that in the Lorenz method the danger lies in the great force which has often to be exerted in order to tear or stretch the structures which oppose reduction, while in the open method there is the risk of sepsis. However careful the surgeon may be there is always a greater risk attaching to this operation than to most other "clean" operations. The reason for this lies in the fact that there is always a good deal of laceration of tissues and effusion of blood as a result, while the forcible manipulations performed while the wound is open must necessarily increase the chance of the sterilised towels slipping and allowing the wound to be contaminated. The open operation does not do away with the necessity for using force to produce the reduction; in fact, the Lorenz manipulations with their accompanying dangers have to be added to the risk of sepsis. While I have only performed the "open" operation in one case I have had the opportunity of seeing it performed on several occasions by others and I feel convinced that the above statement is correct for the majority, if not for all cases, excepting the youngest children, for whom the Lorenz operation is admittedly preferable. Burghard diminishes the manipulations necessary at the time the joint is opened by anæsthetising the patient a week previously and manipulating the limb after the method of Lorenz, or, in other words, he tries the Lorenz method first, and if that fails he opens the joint a week later. This course somewhat modified is the one I have adopted in treating the cases that have come to my hands, though I differ from Burghard in the number in which I consider the second operation necessary. I believe that in the great majority of cases at all ages up to, say, 12 years, perhaps more, reduction can be obtained by manipulation alone and that in these the chance of obtaining a permanent cure is as good as, if not better than, it would be had they been opened. If the capsule is folded down between the femur and the acetabulum the condition may be suspected by the extreme instability of the reduced head at the time of the operation and a skiagraph will show the head of the femur riding on the upper lip of the acetabulum. In a case of this kind, if Lorenz's method has been thoroughly carried out, the manipulations will have been vigorous and prolonged and the resulting bruising around the joint will be considerable, so I should prefer to wait three weeks rather than one before opening the joint. I consider it essential that during this three weeks the leg should be fixed in the Lorenz or frog position, with the knee well back, so that the manipulations required at the second operation may be of the slightest.

The one case in which I performed the open operation came under my care as the result of the illness of one of my senior colleagues who had performed a Lorenz operation a few days previously, but the head of the femur would not remain opposite the acetabulum. The leg was kept in plaster for about three weeks and then the joint was opened, the leg being still abducted at a right angle. An anterior incision was made approximately in the usual line for excision of the joint, and the capsule opened in the same line from acetabulum to femur, the innermost part of the Y ligament being divided. The capsule was found to be contracted all round the acetabular margin, as much above as below, but the lower part was, in addition, held over the acetabulum by the ilio-psoas tendon. This was freed from the lesser trochanter and the dislocation reduced. Some difficulty was experienced in obtaining the full hyper-extension, and in forcing the knee back the head of the bone was dislocated forwards through the slit in the capsule. This was at once reduced and the leg fixed with the lower end of the femur only slightly behind the plane of the upper. The capsule was not sutured as there was no tendency to recurrence of the forward dislocation and the wound was closed. Healing took place by first intention and a skiagraph taken with the leg in plaster two or three days after the operation showed the bones in excellent position. The case was operated upon a year ago and when seen two months ago with Dr. E. R. Hunt of Brighton, under whose care she is, there was every prospect of a permanent cure resulting.[1]

Burghard lays stress on the importance of dividing the ilio-psoas, which he usually does obliquely with a pair of scissors. As to opening the capsule, he says the "exact method of incising the capsule is not of much importance: latterly I have made it parallel to the long axis of the neck of the femur and over the head of the bone made prominent by rotating the limb outwards. This has the advantage that the incision is in the lax portion of the capsule and allows the thickened anterior portion lying over the acetabulum to be more easily defined. It is this latter portion of the capsule that offers the greatest obstacle to reduction; the finger passed through the narrow slit-like opening between it and the upper edge of the acetabulum will ascertain whether there is room for the head to pass into position, and if not a way must be made for it by detaching the capsule from the acetabular rim sufficiently to allow of its passage. It is always well, however, not to detach the capsule too freely from the rim of the acetabulum as the various bands in that situation are powerful agents in preventing the head of the bone from slipping out of place. No attempt whatever is made to deepen the acetabulum or to shape the head of the bone afresh."

Openshaw in 1903 recommended a combined method but his open operation included deepening of the acetabulum.

We may now discuss the details of the Lorenz or "bloodless method." By its use we can obtain an anatomical reduction in the majority of cases and in the greater number of these the reduction will be permanent.

In making these statements I have the support of Jackson Clarke who has been a strong supporter of this method of treatment since Lorenz visited London in January, 1903. In children over the age of 12 years the method may possibly result in an antomical cure and in many cases will give a good functional result.

Of my cases 40 have been operated upon by the Lorenz method, in most cases by myself and in a few by a member of the resident staff of this or Charing Cross Hospital under my direction. The ages of the patients at the time of operation varied from 19 months to just under 11 years. Of these

[1] This case was seen again six months later and the hip was by no means satisfactory. The head of the femur subluxated forwards as the child walked with the leg markedly everted. There seemed to be no tendency for it to pass upwards. It was hoped that even now a good result might be obtained by inverting the limb and applying a plaster case.

40 the dislocation was unilateral in 31, bilateral in the remainder. Of the 31 unilateral cases the immediate result, confirmed by an x ray picture, was entirely satisfactory in 28; in two the head persisted in rising on to or above the upper lip of the acetabulum; in the remaining case the head was a trifle higher than it should have been though not really on the upper lip. If I saw such an appearance in another case I should deem it sufficient excuse for cutting down on the joint. Of the two failures one had been treated unsuccessfully by Lorenz's method two years previously, making the stretching of the muscles for the second time a matter of considerable difficulty, and the other case had been manipulated a few days previously by a colleague who failed to retain the head in the acetabulum. Of the nine bilateral cases reduction was obtained on both sides in seven, on one side only in one, and in the last a femur was broken (to this I shall refer in detail below), reduction not being attempted on the other side. Thus, out of 17 hips to which the manipulations were applied a satisfactory reduction was obtained in 15, or taking unilateral and bilateral cases together with 48 hips immediate reduction was obtained in 43—i.e., in just under 90 per cent. The details of the operation are as follows. The child is anæsthetised and the skin in the region of the hips is thoroughly washed up with ether soap and dried with a sterilised towel. It is best not to have a compress applied beforehand as it softens the skin and makes it more liable to injury by the hands. Boric powder is freely applied throughout the operation. A pad of sterilised absorbent wool is placed over the side of the pelvis opposite to the one to be operated upon and over this and the upper part of the thigh the assistant places his hands with which he holds the pelvis to the table. The adductors are first stretched and broken by forcible abduction of the thigh which has been flexed to a right angle, while vigorous massage is applied to these muscles close to their origin from the pelvis. It is important that the two hands should be used to the best advantage so that the muscles may be torn with the least amount of exertion and the smallest amount of chafing of the skin. Instead of using the ulnar border of the hand to knead and hack the muscles I prefer to use the thumb, which should be covered with a layer or two of sterilised gauze and placed as near the pelvis as possible, so that the muscles are torn away from their attachments to the bone. The direct pressure of the thumb of one hand and the stretching force obtained by pressure at or above the knee with the other must be applied simultaneously, and an increase in the one should be accompanied by an increase in the other. By these means the adductors of even the older children can be broken without much difficulty. The adductor longus is more easily dealt with than the deeper muscles; the gracilis is usually stretched with the hamstrings. In all but the youngest children the flexor muscles are next stretched by over-extension of the joint, the knee being fully flexed, so that the rectus shares in the stretching. The extensors and hamstrings may be similarly stretched by flexing the hip with the knee extended, though the hamstrings are better left till the head has been reduced, as they can be at once relaxed by flexing the knee. This manœuvre requires care, as it is during this stage of the manipulations that the sciatic or one of the popliteal nerves is particularly liable to injury. In many cases this manipulation is unnecessary. If it is still impossible to pull the trochanter down to its proper level direct traction may be made on the leg. Reduction should now be attempted by a movement exactly as if a traumatic dorsal dislocation were being dealt with. The knee is carried up over the abdomen, then outwards till the thigh is nearly at right angles with the trunk, and then is forced backwards till the head of the bone is felt to slip forwards into the acetabulum. While one hand is employed in carrying out this manipulation the other, with its thumb on the anterior superior iliac spine and its fingers on the trochanter, aids the reduction by forcing the head of the bone downwards and then forwards into the joint. If difficulty is experienced a padded wedge may be placed obliquely beneath the trochanter and the thigh levered over it. Great care is taken that the wedge does not slip below the trochanter. When the head slips forwards into place it can be felt below Poupart's ligament, and the hamstrings will be found to be short and to resist extension of the knee. The head is now either in the acetabulum or at any rate opposite it. Any folded in portions of the capsule are now pulled out of the way and tight portions stretched by forcible rotation of the leg in both directions while the knee is forced further and further back. This forcing back of the knee is an important detail, as if this is not done the reduced head will be less stable and the anterior muscles will not be kept on the stretch and so the lordosis, if present, may not be permanently cured. The leg below the knee must not be made too much use of to obtain this forced rotation or the lower epiphysis of the femur may be separated from the shaft. It is not uncommon to hear and feel the capsular bands giving way. The hamstrings and gracilis are now stretched by extending the knee fully; these muscles usually only stretch and are not torn. The operation is now completed and after redislocation reduction should take place easily if, with one hand supporting the foot, the thigh is flexed to a right angle and the knee allowed to drop outwards by its own weight. The stability of the reduced head is then tested by slowly bringing the leg down parallel to its fellow and by raising the knee till the thigh is in the right angle flexion position; in this way the size of the upper and posterior lips, respectively, of the acetabulum is determined. The prognosis is correspondingly better the wider the range of movement possible before dislocation occurs. A great deal has been written on the question of what is the best position in which to fix the leg in plaster-of Paris. While it is inadvisable to adopt the same plan for all cases it may be said that the best position for the majority of cases is one in which the thigh is at a right angle with the trunk and the long axis of the femur is directed outwards and distinctly backwards, so that in a bilateral case the child in the supine position would be resting on the outer sides of the knees, and have the sacrum off the table. This position is, I believe, the one in which it is said that the femur is neither rotated out nor in, though it is obvious that a similar position would be obtained if the thigh were abducted to a right angle and then rotated out through 90°. Lorenz applies the plaster over a pair of knitted drawers and a thick layer of cotton-wool, and forms a comparatively narrow though stout band of plaster around the opposite side of the pelvis. There seems to be a great tendency for the plaster as it gets loose to ride up and down over the opposite iliac crest as the child walks, and for the femur to have an undue range of movement in the direction of adduction. I prefer to place a small piece of wool over each anterior spine and then apply a flannel bandage, and over this the plaster, in the form of plaster bandages and long strips of house-flannel soaked in plaster cream, making the pelvic band as wide as possible. The general custom is to carry the plaster case as high up the inner side of the thigh as possible and to cover the whole of the front of the joint. This seems to me unnecessary and even disadvantageous, as the femur can be efficiently fixed in the required position without doing either. The pressure of the plaster around the joint is of no use; the stability of the joint depends upon the direction of the long axis of the femur. If the edge of the plaster case passes round just above and outside the place where the head of the femur is to be felt, the position of the bone can be examined with ease from time to time, and, more important still, when a skiagraph is taken a day or two after the operation the rays passing through the greater part of the joint have no plaster to traverse, except perhaps a thin layer behind (Fig. 3). The strength of the cast can be insured by thickening it on the outer side. The cast should end just above the knee to allow this joint to be extended regularly and the hamstrings prevented from re-contracting. The pain after the operation is considerable as a rule and morphia is generally required for the first 24 hours, after which the pain rapidly subsides, so that after 48 hours or so the child is fit to be moved to the x ray room. If the operation has been successful the head of the femur should be opposite, or, better still, a trifle below the level of, the Y-shaped acetabular cartilage which can always be made out, and the axis of the neck and head of the bone should be directed towards this spot. There often appears to be an undue amount of separation between the ossific centre of the head and the acetabular bone; particularly is this the case with young children. If the femur is low enough this separation need not give rise to anxiety, as it is explained by the fact that in the younger children the acetabular cartilage is thicker than at a later age, while the head of the femur is largely cartilaginous. In older children the bones should appear to be in better position.

It is quite a common occurrence to find that the knee and lower part of the leg at the end of the operation, both before and after the application of the plaster, are somewhat dusky

in appearance and that the circulation in these parts is sluggish. This is due to the stretching, and therefore narrowing, of the vessels, particularly the vein, over the replaced head of the femur, and usually passes off in the course of an hour or so. Although I have met with it repeatedly, and always have the leg examined from time to time during the first few hours, I have never had to remove the plaster to relieve it. The slight cracks which commonly appear in the stretched and bruised skin over the adductors should be dusted frequently with boric powder.

The dangers of this operation must never be forgotten, but with care they should be avoided. They are fracture of the femur or pelvis and injury to the peroneal, anterior crural, and sciatic nerves. Lorenz in 1905 published the following accidents in 450 cases: fracture of the femur, 11 cases; fracture of the pelvis, 3; peroneal paralysis, 3; crural paralysis, 5; sciatic paralysis, 3; rupture of the femoral artery, 1 case; and gangrene, 1 case. He also had some deaths from the anæsthetic. Narath described a hernial bulge beneath Poupart's ligament but other surgeons do not appear to have been troubled by this complication. I have to confess to two calamities in my series of 48 operations. The first case is the one alluded to above in which I broke the femur. This was a bilateral case, in a girl, aged 5 years, the femur breaking just below the trochanters after a prolonged and tiring attempt to reduce one of the dislocations. I wish to draw particular attention to this case as I believe that it was due to my being tired and careless after a too prolonged battle, and allowing the wedge to slip down below the great trochanter. The femur naturally broke across this fulcrum; it was an accident which should have been easily avoided. The femur united in good position and the child is apparently no worse off than she was before the operation. The other accident was suppuration of the hæmatoma resulting from laceration of the muscles in front and to the inner side of the joint. The case was that of a boy, aged three and a half years, with a unilateral dislocation which had been operated upon by the Lorenz method two years previously. As a result of this first operation the second was extremely difficult; there was a dense fibrous band in the region of the pectineus which gave a great deal of trouble before it would give way. The head of the femur would not remain in or opposite the acetabulum and I decided to do an open operation three weeks later. Unfortunately a rapidly spreading abscess developed in the lacerated muscles of the leg, and in spite of numerous and free incisions the suppuration could not be checked and the child died. The damage done to the skin over the adductors was not excessive, and the cracks which appeared healed rapidly. The child did not seem to possess the slightest power of resistance, and nothing we could do seemed to help him. I take it as a warning to be careful not to operate on a child who does not seem fit to withstand the operation, particularly when there is any reason to anticipate unusual difficulty with the reduction. Some swelling and œdema, without any suppuration, may persist in the adductor region for several weeks; I have seen it last six months over the replaced head of the femur and disappear after the plaster was removed and the leg allowed to come down.

Time will only allow me to refer briefly to the after-treatment, though this is so important that it cannot be passed over. The essential point is that the plaster should be retained for a sufficient length of time. This should be at least six months and should often be nine or more. The cast is changed if it becomes soiled, broken, or too loose. After six months or more the leg may be brought down a little and the plaster reapplied for another month, after which the position may be improved and the leg again fixed in plaster for a month, after which the child may be allowed to go free. Except for the first day or two after the operation the hamstrings must be stretched by extension of the knee, which after a few days of partial extension must be carried out to the full extent and repeated two or three times a day till the plaster has been removed and the leg has nearly regained its normal position. The child should also be made to carry out this movement unaided. If the plaster is kept on long enough and the hamstrings are not allowed to contract, I doubt whether the other details of the after-treatment, such as massage and exercises, have much influence on the ultimate result so far as the joint itself is concerned. That the child be allowed and encouraged to walk in the plaster does not appear to me to be essential, though it is undoubtedly advisable, if only for the sake of the child's general health and the nutrition of the limb. My first cases were not allowed to walk while the leg was in plaster, yet of the first four, the operations upon which were performed between three and a half and five years ago, three show anatomical cures and one subspinous reposition with an excellent functional result. In this last case the head of the femur is firmly planted beneath the anterior inferior iliac spine.

I have here skiagrams showing the present condition of the hip-joints in the three successful cases. (Figs. 4, 5, and 6.) Although these children were kept off their feet while in plaster, in two there is no shortening of the limb on the affected side and the feet are equal in size. The third case unfortunately developed a paralytic condition of the other leg, so that the previously dislocated limb is now the better and the longer of the two, though 18 months after the operation the legs were equal in length.

We now pass to what you probably consider the most interesting part of the subject—namely, the ultimate results obtained in these cases. It is advisable to warn the parents of a case of congenital dislocation of the hip that the leg may take several months to come down to its normal position and that the walk is not likely to be good till some time after this has occurred. In the younger cases a couple of months may see the leg properly down and capable of being rotated in but in the older cases it may be two years before the leg can be adducted and rotated to the normal extent. Delay in the descent of the leg is by no means a bad sign, as the longer the time occupied in bringing the leg down the less likely is redislocation to occur. The thigh on the affected side remains thinner than that on the other for some time and the asymmetry of the adductor region is obvious for many months. As to the joint itself the condition can only be accurately determined by the use of the x rays. The head of the femur is often unduly large and may extend outwards farther than it should, giving the impression that it is not really in contact with the acetabulum, while the x rays show that redislocation has not occurred.

Lorenz in 1905 published 365 unilateral cases with 60 per cent. anatomical cures, and 34·7 per cent. "subspinous repositions" with good functional results. In 158 bilateral cases—i.e., with 316 joints—he gives 60 per cent. anatomical cures and 20 per cent. subspinous repositions. Hoffa gives a lower percentage of anatomical cures and a higher percentage of good functional results, and he says that a satisfactory result should be obtained in 80 per cent. of all cases treated by the open or the bloodless method. Excellent results have also been obtained in this country by Jackson Clarke, W. E. Bennett, and others. In many of my own cases sufficient time has not elapsed to allow conclusions to be drawn as to the ultimate result, several being still in plaster. In 17 unilateral cases in which the leg has come down parallel to the other the x rays show that an anatomical cure has resulted in 14; subspinous reposition has occurred in one; in the remaining two the head of the femur is a little high and a little far out, though still below the upper lip of the acetabulum; in these the head will probably settle into the subspinous position. In these three cases the functional result is good. Owing to the slow descent of the legs in the bilateral cases in only two cases does it seem fair to judge at present of the result. In one of these the immediate result of the operation was a failure on one side and on the other side a relapse has occurred. In the other case an anatomical cure was obtained on both sides. Unfortunately the result in a few cases in which an anatomical reduction has been obtained has been somewhat marred by shortness of the leg. This shortening is due to imperfect development of the head and neck of the femur and, in fact, of all the bones of the leg, including the foot. A cork sole of appropriate thickness in the boot of the affected leg will enable a perfect functional result to be obtained. Shortness of the leg was noted in four of my cases in which the x rays showed the hip-joint to be reduced. The ages of these cases varied from two to nine years and the amount of shortening from three-eighths to half an inch. It is possible, even probable, that this want of development of the bones of the affected limb is increased by the fixation in the plaster cast, and therefore the occasional occurrence of this shortening must be looked upon as an argument in favour of making the patients walk while in plaster. Yet the use of the limb while in plaster, as already stated, is not essential, for my first three successful cases present no shortening and not one of them walked during the

first six months of treatment. The deformity is certainly not entirely due to disuse, for it may be seen in cases in which no treatment has been attempted. I have noted a difference of half an inch between the distances from the tip of the trochanter to the tip of the external malleolus on the two sides and I have seen the foot of the dislocated limb distinctly smaller than the other, in both instances before treatment was commenced. In rare cases the joint remains rather stiff for a long period, apparently the result of a mild arthritis. It must be admitted, therefore, that every anatomical cure is not necessarily accompanied by a perfect functional result, though it is in the majority of cases. Even when the function of the leg cannot be called perfect it is always much improved by the reduction, and as the child grows up the disability will tend to decrease and probably disappear, whereas if left untreated the leg is an increasing source of trouble.

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THE SUPPORTS-IN-CHIEF OF THE FEMALE PELVIC VISCERA.[1]

BY R. H. PARAMORE, M.D. LOND., F.R.C.S. ENG.

IT has been supposed that the supports of the pelvic viscera could be discovered by anatomical research, but it is a significant fact that, in spite of much anatomical activity in this direction, the answer to this important question is not yet established. The non-arrival at a satisfactory conclusion is, it seems to me, the result of the endeavour to elicit the functions of structures by anatomical dissections alone rather than by conjointly investigating the actual living processes which occur in the body with the structure of the parts concerned. Moreover, it is strange to find that the results of experiments made on the dead are frequently accepted as showing what occurs in the living. Thus a corpse may be suspended and the whole pelvic floor removed and yet the uterus may remain very much in place. This shows what may happen in the dead when the pelvic floor is removed, but as regards the living it shows nothing at all. A thick piece of tendon may be removed and a weight suspended from it for a considerable time and very little stretching occurs; in the living marked stretching occurs. A dead femur may be taken and so arranged that considerable and long-continued pressure be brought to bear upon it between its lower extremity and its head, but the angle of the neck does not yield. A heavy body may be made to press on a dead sternum with no effect but in the living sternum marked curvature or perforation soon occurs. Thus, the futility of anatomical research alone is shown and the necessity of turning to the living body and of investigating the actual living processes occurring therein is made evident. Yet the physiology of the pelvic floor musculature and of its attachments has been sadly neglected, nor have the living processes which determine the statics of the pelvic viscera been recognised.

Anatomical dissection shows that the pelvic cavity is shut in below by the levator ani muscle, the coccygei muscles, and their connective tissue attachments. This muscular sheet, variously styled the pelvic diaphragm or the pelvic floor, limits the abdomino-pelvic cavity inferiorly; and in uniformity with the other limiting musculature of the body cavity it is clothed, as Derry has ably pointed out, by a layer of subperitoneal tissue, and it is lined by peritoneum. Within this subperitoneal tissue and imbedded in it the pelvic viscera lie; and these, protruding into the cœlomic cavity, elevate the peritoneum from off the pelvic floor. Besides viscera this layer contains the blood and the lymph vessels, the lymphatic glands and the nerves, and the ureters. In places it is composed of soft loose cellular tissue containing more or less fat according to the condition of the subject; in other parts the tissue has become condensed to form ligamentous strands in which unstriped muscle is found, especially in relation with the pelvic blood-vessels and which therefore have been styled the perivascular connective tissue sheaths. Owing to their strength and to the fact that they are attached to the bone it has been supposed they constitute the chief and the only supports of the viscera. In this modification of the subperitoneal tissue nothing remarkable exists, for a similar condition is found elsewhere in the body—e.g., in connexion with the duodenum. Where this latter becomes continuous with the jejunum an abrupt bend—the duodeno-jejunal flexure—is formed which is "fixed by a thin band of unstriped muscle attached above to the strong connective tissue around the cœliac axis as well as to the left crus of the diaphragm and which below joins the muscular coat of the duodenum at the flexure." This band is known as the suspensory muscle of the duodenum.[2] Those who believe that the perivascular connective tissue sheaths alone support the uterus and the other viscera may also believe that this muscle of the duodenum is a veritable supporter of the flexure referred to and that without it the gut would sink to the pelvis. In spite of all that has been said to the contrary, my opinion is that this muscular band does not support the duodeno-jejunal flexure in the sense that a wire may be said to support a picture which hangs suspended by it on the wall; but I believe that the duodenum rests upon the viscera below it which are themselves kept in place by the intra-abdominal pressure, that is, by the tonic contraction of all the muscles which surround and inclose the abdomino-pelvic cavity.

During life the duodenum is continually undergoing peristalsis, vermicular movements which necessarily exert tension on that part of the gut that is most fixed, and this tension is transmitted to the subperitoneal tissue in which the gut is imbedded. The frequent and moderate strains to which this tissue is thus exposed have resulted in a modification of structure to meet these strains and thus this muscular ligament has been developed, just like the cancellous tissue in the upper extremity of the femur has developed in that way the best suited to oppose stresses, primarily because the stresses had to be met. I therefore see in this thickening of the subperitoneal tissue nothing other than a mechanism which acts by anchoring the viscus and thus prevents a too great excursion of it, just as a rope fixed to a bank may prevent a boat drifting down stream but cannot be said to support the boat. The whole duodenum, then, is supported by the adaptation of all the other viscera around it, which are themselves kept in place by the tonic contraction of the inclosing muscles. Within the local duodenal area movements are continually in process and the tissue in question moors the viscus to the spine. When the abdominal wall becomes inefficient then the test of support arises and the suspensory muscle of the duodenum, like the perivascular connective tissue sheaths of the uterus, is found to be a support merely in name and utterly useless for the living purpose that the anatomist considered the dead tissue capable of.

There is no essential difference between the condensation of the subperitoneal tissue in one place and that in another; and with identity of structure we may, I think, fairly argue identity of function. When, however, we glance at the visceral connective tissue strands which radiate from the circumference of the pelvic wall to the cervix it, indeed, looks as though these strands might support the uterus. But when we compare this apparatus with the pelvic diaphragm lying beneath we find the essential difference between these two structures is, that whilst the pelvic diaphragm on account of its striated muscle, is a highly elastic obturator, the pelvic visceral connective tissue is little if at all elastic. It is this lack of elasticity, the impossibility of yielding to excessive pressure from above without stretching, and the

[1] A paper read before the Obstetrical and Gynæcological Section of the Royal Society of Medicine on May 14th, 1908.

[2] Cunningham: Anatomy, 1906, p. 1070.

equal impossibility of returning to a previous position after such stretching, that makes it impossible for the visceral connective tissue sheaths to play the part of a support adaptable to all the requirements of the pelvis.

What, then, is the function of these perivascular connective tissue sheaths? A study of the act of defæcation shows that when this occurs the pelvic floor considerably descends, owing to a relaxation of the muscle fibres. During this descent the connective tissue attachments of the uterus come into play and prevent a too great descent of this organ; they indeed play the part of veritable supporters of the uterus, but they can only perform this office for short periods of time, and if the straining consequent on defæcation is always excessive or long continued they become impaired and yield. Normally, in the absence of defæcation, no strain is thrown upon these tissues, and they are prevented from becoming stretched not by any virtue of their own but by the support that is given to them, as well as to the pelvic viscera, by the tonically contracted and healthy muscle which lies beneath them.

I must now refer somewhat briefly to the pelvic diaphragm. The specimens exhibited, for the loan of which I am indebted to the kindness of the President of the Royal College of Surgeons of England, show very well the levator ani muscle; in one the muscle is seen in relation to the superimposed viscera, in the other as a well-marked and muscular diaphragm stretching across the pelvic cavity and separating this from the ischio-rectal fossa. This diaphragm is to be considered identical in structure and in function with the anterior abdominal wall. The fact that the abdominal and pelvic cavities are, indeed, one cavity should lead us to suppose that they are inclosed by a universal means, similar alike in anatomical structure as in physiological function; nor should the accident of the ingrowth of the pubic bones to meet in the median line at the symphysis, nor the presence of the genito-urinary and rectal passages, complications as they are, be sufficient to blind us to the essential similarity between the two parts. These in the living body, indeed, act as antagonists to each other, in that increase of contraction of the one reflexly causes increase of contraction of the other. In examining a specimen of this muscle, therefore, a comparison should always be made with the muscles of the abdominal wall, nor should the fact be forgotten that since the area of the pelvic outlet is many times smaller than the area filled in by the anterior abdominal wall, that therefore the work to be done by the levator ani muscle, in successfully resisting the pressure caused by increase of the contraction of the abdominal wall muscles, is considerably less than the work which the anterior abdominal wall musculature has to perform to produce this pressure. Thus a relative thinness and apparent weakness of the levator ani muscle is explained. The outcome of the simultaneous contraction of these two groups of muscles, in the superior one of which the thoracic diaphragm must, of course, be included, is the intra-abdominal pressure. This pressure acts by thrusting the pelvic viscera still further downwards upon the pelvic floor; and in the presence of this downthrust the viscera are maintained in their position by the levator ani muscle. Since this is attached to the pelvic wall by connective tissue it is plain that to this the strain and stress of supporting the viscera and opposing the intra-abdominal pressure must be transmitted. An inquiry into the conditions of successful connective tissue functioning in the body shows that this is entirely dependent upon the functioning of the muscles with which the connective tissues are connected.

As regards the development of the levator ani muscle I only wish to say that the argument which has been advanced, that because man has lost his tail that therefore the tail moving muscles have degenerated so completely as to be useless, is entirely fallacious. Although it is true that the attachments of these muscles have altered considerably we find that as a result of the assumption of the erect posture, in which it is certain greater pressure is brought to bear upon the pelvic floor, they have become spread out to form a wide muscular sheet which completely and efficiently closes in the pelvic outlet and so supports the pelvic viscera. The proof that this is so is shown by the invariable occurrence of prolapse when this muscle has been sufficiently injured and the intra-abdominal pressure periodically becomes sufficiently high, and, as Halban and Tandler have pointed out, is exhibited in the most beautiful way in cases of congenital paralysis of the muscle in association with spina bifida.

Gordon-square, W.C.

THIRTY CONSECUTIVE CASES OF APPENDICITIS WITH DIFFUSE PERITONITIS.

BY CYRIL A. R. NITCH, M.S. LOND., F.R.C.S. ENG.,
SURGEON IN CHARGE OF OUT-PATIENTS AT ST. THOMAS'S HOSPITAL AND AT THE EVELINA HOSPITAL FOR SICK CHILDREN.

WITHIN recent years the treatment of diffuse peritonitis secondary to appendicitis has undergone great changes. In the first instance, the gravity of the situation is recognised by physicians and surgeons at a much earlier date and patients are operated upon sooner; and secondly, the peritoneal toilet is completed by dry sponging or local flushing instead of by the haphazard method of lavage with large quantities of normal saline or other solutions with or without evisceration. Though the method of removing the peritoneal exudate by dry sponging was employed by some operators in, and quite possibly before, the year 1900, the scientific explanation of the excellent results obtained thereby was not fully understood until Mr. L. S. Dudgeon and Mr. P. W. G. Sargent delivered the Erasmus Wilson lectures on "The Bacteriology of Peritonitis"[1] in 1905. In these lectures it was conclusively proved (1) that the colon bacillus is the pathogenic organism in gangrenous or perforative appendicitis with diffuse peritonitis; (2) that in every instance this organism provokes a rapid and extensive phagocytosis; and (3) that it also causes a rapid and extensive degeneration of the leucocytes. Consequently by lavage of the peritoneum the protective phagocytes are washed away and myriads of highly infective bacilli are carried by the stream to remote parts of the abdominal cavity, there to infect fresh areas of the peritoneum and cause degeneration of the few remaining protective phagocytes.

Since these cases have been treated by early operation and dry sponging or strictly local irrigation, in contradistinction to irrigation of the whole peritoneal cavity, the mortality has fallen from 82 per cent. to less than 10 per cent., as Table I. clearly shows.

TABLE I.

Operator.	Number of cases.	Deaths.	Mortality per cent.	Reference.
General Irrigation.				
Staff of St. Thomas's Hospital.	100	80	80·0	St. Thomas's Hospital Reports, 1899–1903.
Sargent.	19	18	94·7	Dudgeon and Sargent: The Bacteriology of Peritonitis.
Total ...	119	98	82·3	—
Dry Sponging or Local Irrigation.				
Morton.	14	2	14·2	Brit. Med. Jour., January, 1906.
Sargent.	6	0	0	The Bacteriology of Peritonitis.
Burgess.	33	1	3·03	Brit. Med. Jour., January, 1908.
Nitch.	30	3	10·0	
Total.	83	6	7·2	—

It will be seen that the best results (33 cases with one death) were obtained by Burgess, who combined local flushing with dry sponging, whereas the remainder (50 cases with five deaths) were treated by dry sponging alone. This speaks volumes for what might be termed the "wet method," but in spite of its apparent superiority in a relatively small number of cases the dry operation is undoubtedly the ideal one and in all probability would show even better results if a comparison could be made with a large series in which the interval between the onset of acute symptoms and the operation was the same in each instance.

The following series of cases which I now record were under my care when I was resident assistant surgeon at St. Thomas's Hospital. I am much indebted to the members of the staff for whom I acted for permission to make use of the notes.

[1] Dudgeon and Sargent: The Bacteriology of Peritonitis. Archibald Constable and Co., 1905.

TABLE II.

No.	Sex.	Years of age.	Duration of acute symptoms.	Pulse.	Temperature Fahrenheit.	Condition of appendix.	Extent of peritonitis.	Result.
1	M.	17	12 hours.	100	100·2°	Gangrenous and perforated.	Both iliac fossæ and pelvis.	Recovery.
2	F.	14	20 ,,	120	101·4°	,, ,,	Right kidney pouch, pelvis, and left flank.	,,
3	M.	5½	24 ,,	120	101·2°	,, ,,	Both iliac fossæ and pelvis.	,,
4	F.	14	28 ,,	88	98°	,, ,,	Right iliac fossa and pelvis.	,,
5	M.	13	42 ,,	80	101°	,, ,,	,, ,,	,,
6	F.	14	48 ,,	136	103·4°	Gangrenous.	Both iliac fossæ and pelvis.	,,
7	M.	7	48 ,,	88	99°	Gangrenous and perforated.	Right kidney pouch, right iliac fossa, and pelvis.	,,
8	M.	18	48 ,,	120	101·4°	,, ,,	Right iliac fossa and pelvis.	,,
9	M.	21	48 ,,	120	101°	Gangrenous.	Right kidney pouch, right iliac fossa, and pelvis.	,,
10	M.	29	48 ,,	100	101·8°	Gangrenous and perforated.	Right iliac fossa and pelvis.	,,
11	F.	53	48 ,,	96	98·4°	Gangrenous.	Pelvis.	,,
12	F.	34	48 ,,	92	99°	,,	Right iliac fossa and pelvis.	,,
13	M.	11	52 ,,	132	103°	Gangrenous and perforated.	Both iliac fossæ and pelvis.	,,
14	M.	38	54 ,,	92	99°	Perforated.	Right iliac fossa and pelvis.	,,
15	M.	25	55 ,,	126	102°	Gangrenous and perforated.	Pelvis.	,,
16	F.	17	60 ,,	120	102°	,, ,,	Right iliac fossa and pelvis.	,,
17	F.	17	60 ,,	100	99°	,, ,,	,, ,,	,,
18	M.	20	60 ,,	96	101°	,, ,,	,, ,,	,,
19	F.	28	60 ,,	120	101·4°	Perforated.	,, ,,	,,
20	M.	23	60 ,,	108	99°	,,	Right kidney pouch, iliac fossa, and pelvis.	,,
21	F.	52	66 ,,	86	100°	Gangrenous and perforated.	,, ,,	,,
22	M.	58	3 days.	112	98°	,, ,,	Right iliac fossa and pelvis.	,,
23	M.	11	3 ,,	120	98·4°	,, ,,	Pelvis.	,,
24	M.	8	3 ,,	136	99°	Gangrenous.	Both iliac fossæ and pelvis.	,,
25	F.	6	3 ,,	140	100·8°	Perforated.	,, ,,	,,
26	F.	54	3 ,,	88	98°	Gangrenous and perforated.	Right iliac fossa and pelvis.	,,
27	F.	41	3 ,,	88	100°	,, ,,	Pelvis and left iliac fossa.	,,
28	M.	21	20 hours.	120	99·2°	,, ,,	Both iliac fossæ and pelvis.	Death.
29	F.	33	3 days.	110	99°	,, ,,	Right kidney pouch, iliac fossa, and pelvis.	,,
30	M.	23	4 ,,	120	101°	,, ,,	Right iliac fossa and pelvis.	,,

Interval between the Onset of Acute Symptoms and the Operation.

Under 24 hours, three cases with one death. The fatal case (No. 28) was a male, aged 21 years, admitted on March 20th, 1906, with a history of acute generalised abdominal pain, frequent vomiting, and painful micturition of 19 hours' duration. The temperature was 99° F. and the pulse was 120. The tongue was brown and dry and the abdomen was retracted, rigid, and quite motionless. Tenderness, though general, was most marked in the right iliac region, above the pubes, and in the left flank. The percussion note was everywhere resonant; no fluid thrill was detected. Immediate operation was proceeded with. There were offensive pus in the right iliac fossa and pelvis and turbid odourless fluid in the left flank. The distal two-thirds of the appendix were gangrenous and there was a large perforation near the tip. The adjacent coils of intestine were deeply injected and were coated with lymph. "Black vomit" after the operation was relieved by three injections of 20 cubic centimetres of anti-colon bacillus serum. The abdomen remained rigid and tender until death on the eighth day. Post mortem general purulent peritonitis was found to be most intense in the lower half of the abdomen. There were vegetations on the mitral valve.

From 24 to 48 hours, 10 cases with no deaths.

From 52 to 66 hours, nine cases with no deaths.

Three days, seven cases with one death. In the fatal case (No. 29) the patient was a female, aged 33 years. On the night of Dec. 13th, 1906, she was suddenly seized with acute abdominal pain which "doubled her up" and caused her to vomit several times. As these symptoms persisted she was sent to the hospital three days later. On admission the abdomen was found to be uniformly distended and almost motionless, while the lower half was rigid and very tender. The percussion note was everywhere resonant. Micturition had been painful and frequent. Rectal examination caused great pain on the right side. Temperature 99° F.; pulse 110. At the operation the intestines in the cæcal region were found to be covered with lymph and to be bathed in odorous pus which welled up from the right iliac fossa and pelvis. There were no limiting adhesions. The perforated gangrenous appendix contained one concretion. The abdominal wound was closed and drainage was established through a counter-opening in the loin. In spite of large doses of calomel and copious enemata only one small action of the bowels was obtained on the second day. Abdominal distension gradually increased and death took place on the third day. Post-mortem examination revealed general plastic peritonitis.

Four days, one case which proved fatal. The patient (No. 30) was a male, aged 23 years, and was admitted on July 25th, 1905. The attack had commenced on the 21st with acute pain in the umbilical region, which had spread to both flanks, and was accompanied by vomiting and constipation. This continued for two days when the vomiting ceased. On the fourth day the pain became so severe that the patient was obliged to seek relief. When seen he looked very ill, with an anxious expression and a dry brown tongue. Temperature 101° F.; pulse 120. The abdomen was rigid and immobile. Extreme tenderness was experienced on pressure over the lower end of the right rectus and in both flanks. No shifting dulness or fluid thrill was detected. Micturition was painful and high rectal examination was almost unbearable. Cœliotomy was performed. The pelvis was full of a sero-purulent fluid and the intestines were red and injected but there were no adhesions. The gangrenous perforated appendix contained one large concretion around some stiff hairs. Drainage was effected through the abdominal wound and a counter-opening in the flank. Signs of pneumonia set in and death took place in two days. Post-mortem examination revealed slight plastic peritonitis which was limited to the submesocolic region and red hepatisation of the upper lobe of the right lung and of both lobes of the left lung.

Analysis of symptoms.—The history of all these cases was very characteristic. In no less than 21 patients (of whom 10 were awakened from their sleep) the onset of the disease was without warning, the attack being ushered in by sudden acute abdominal pain usually localised to the umbilicus. In only three of them was the pain in the first instance referred to a spot on the abdominal wall corresponding to the situation of the appendix, as revealed at the operation. After a period of quiescence, which seldom lasted more than 12 hours, the pain returned with increased severity and was then localised either to the right iliac fossa or to the lower half of the abdomen. In two instances the acute onset was directly traceable to an injury. One case (No. 24) was that of a boy, aged six years, who had been feeling unwell for two days before he hurt his abdomen by falling prone on the playground at school; within a few hours the pain, which was localised to the hypogastric region, became very severe and culminated in a rigor. The other case (No. 18) occurred in a man who was seized with acute generalised abdominal pain and vomiting after lifting a heavy weight. With one exception vomiting was a constant feature; in five cases it was continuous, in the remainder it only occurred once or twice at the beginning of the illness. Micturition was painful and generally frequent in 20 cases. This is a most important symptom and when present is strong evidence of the diffusion of the peritonitis. The variable character of the temperature and pulse-rate in different cases, with equally severe lesions, is shown in a striking manner in Table II., and serves to prove what little reliance can be placed on these signs as an indication of the condition of the appendix or peritoneum. A rapid pulse combined with a low temperature, of course, speaks for itself, but it must be borne in mind that a normal temperature and a slow pulse may convey a silent demand which should be answered as rapidly as in the former case.

Local signs.—Painful rigidity of the abdominal wall was invariably present, in some instances all the muscles were involved, but in the majority only the lower half of the right rectus and obliques and the lower fourth of the left rectus were affected. Combined with this, abdominal movement was always limited and in some cases absent. The situation of tenderness was very variable; in some cases it was general, in others only the lower part of the abdomen was involved, while in others it was confined to the right iliac region. In a considerable number it was also present in the left flank and in eight of these cases turbid fluid was found in the left iliac region. Distension of the abdomen when present was slight and was usually confined to its lower half. Shifting dulness was only detected in three cases (Nos. 2, 10, and 13). A rectal examination was made in every case and with four exceptions caused tenderness or sharp pain, especially when the exploring digit was pressed forwards and to the right.

Condition of the appendix and the extent of the peritonitis.—The appendix was perforated alone in three cases, gangrenous alone in five, and both gangrenous and perforated in 22. A perforated appendix was found in 17 of the 21 cases, already alluded to, in which the onset of the attack was sudden. The extent of the peritonitis, as noted at the time of operation, is set forth in Table II., but, as can be imagined, it is quite impossible to determine this with any real exactitude without making several incisions. In every instance the inflammation was most intense in the immediate neighbourhood of the appendix, the adjacent coils of intestine being red and injected, and bathed in pus or seropurulent fluid which was usually inodorous and frequently associated with a considerable amount of lymph formation. An abortive attempt to shut off the fluid by the formation of adhesions was noted in four cases (Nos. 1, 2, 7, and 23), but in each instance a large gap was found in this protective wall through which the exudate had escaped.

Operation and after-treatment.—After opening the abdomen, either by inward displacement of the rectus or by splitting the muscle in the direction of its fibres, the omentum and intestines were gently packed off from the cæcum with large strips of sterilised gauze, particular care being taken to wall off the pelvic cavity and the entrance to the right kidney pouch. The appendix was then sought for, brought out of the wound, and immediately wrapped in a piece of gauze. When its proximal end was healthy a crushing clamp was employed, but when it was turgid with inflammatory exudate the cuff operation was performed, as in the latter cases the clamp, besides severing all the coats and leaving the stump wide open, is liable to displace septic thrombi into the circulation. After sequestrating the stump of the appendix with a purse-string suture, flakes of lymph where loosely attached to the intestines were removed and the peritoneal exudate was then carefully mopped out with long strips of dry sterilised gauze, special attention being paid to the bottom of the pelvis and to the right kidney pouch. Drainage was now provided for in the following manner: a small incision was made in the flank half an inch above the crest of the ilium on a level with the ascending colon and through this an indiarubber tube was passed into the right iliac fossa. A second tube reaching to the bottom of the pelvis was brought out through the abdominal wound, which was then closed in layers with Claudius catgut. Gradual removal of the tubes was commenced after 48 hours and completed by the end of the week. The tube through the abdominal wound was dispensed with in Cases 5, 25, and 29; primary union took place in the first two and in the last the patient died. Though Cases 19, 21, and 24 were not drained their recovery, perhaps, was due rather to luck than to judgment, for two of them provided their own drainage on the second day when the lower angle of their wounds gaped. Drainage is a most important adjunct to success, but it should be carried out by means of a loin tube and not by a tube through the abdominal wound which only acts as an infective channel and a foreign body around which adhesions are formed. The foregoing statement may appear paradoxical in view of the fact that the condemned tube was used in 24 of the cases, but it is made as the result of the obvious inefficiency of this tube in these very cases, for all discharge invariably escaped through the loin tube.

On returning to bed the patients were placed in the Fowler position and in addition the pillows were so arranged as to tilt them well over to the right side. Continuous rectal infusion was only attempted in one case, and in this it was soon discontinued owing to the alleged discomfort which it caused. Four patients (Nos. 6, 10, 24, and 28) who were very ill, with a rapid pulse, frequent vomiting and abdominal distension received immediate relief from subcutaneous injections of anti-colon bacillus serum. They have already been recorded (together with 21 others so treated) by Mr. G. H. Makins and Mr. Sargent.[2] A large dose of calomel was always administered 12 hours after operation and if necessary followed in another 12 hours by large turpentine enemata. In the majority of cases convalescence was rapid and uninterrupted. Serious complications only occurred in two cases (Nos. 8 and 20) in which in the third week the patients developed acute obstruction of the small intestine due to adhesions. In both cases recovery followed the second operation.

Harley-street, W.

ON THE MEASUREMENT OF THE STEREOSCOPIC VISUAL ACUITY.

BY G. T. BROOKSBANK JAMES, F.R.C.S. ENG.,
SURGEON TO THE ROYAL EYE HOSPITAL, SOUTHWARK; ASSISTANT OPHTHALMIC SURGEON TO THE WESTMINSTER HOSPITAL.

SOME months ago when considering the subject of binocular vision and its relation to convergent squint it occurred to me that an apparatus might be devised to measure the stereoscopic visual acuity with the same accuracy as the well-known types of Snellen serve to measure the form sense. It was necessary, in order to carry out this idea, to take into consideration the several factors which, in daily life, influence our judgment with regard to the relative distance of objects from one another, and carefully to exclude all aids by which an approximately accurate estimation can be formed by the use of one eye alone. A description of the instrument which I designed for this purpose will show how these objects have been attained.

The general form of this apparatus, which may be called a distance stereoscope, when in use, is that of a box, the roof and side walls of which have been removed, leaving the anterior and posterior walls and floor. The anterior wall measures 38 centimetres transversely by 31 centimetres vertically. In its centre is an oblong window, 19½ centimetres by 12 centimetres. The whole of the anterior wall, with the exception of the window, is covered with black velvet. The posterior wall consists of a central portion

[2] Makins and Sargent: "A Note on the Value of Anti-colon Bacillus Serum," Transactions of the Clinical Society of London, vol. xl., 1907.

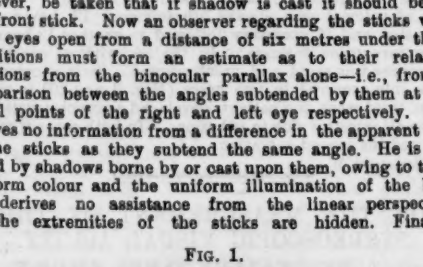
38 centimetres by 13 centimetres and two wings, each 19 centimetres by 29 centimetres. The whole of the posterior wall is covered with black velvet. The floor measures 38 centimetres transversely by 38·5 centimetres in an antero-posterior direction. It presents two longitudinal grooves in which run two carriers to support the test objects; the grooves are placed at equal distances from the margins of the window of the box and there is an interval of 50 millimetres between them. These measurements of the different parts of the stereoscope are just sufficient to permit of its use in the way I am about to describe.

The test objects are sticks of different sizes painted a pure white. Their length is such that when a stick is in position its extremities are hidden from view by the margins of the window of the box.

For clinical observations the box is placed at a distance of six metres from the observer, just beneath the ordinary board printed with the Snellen types. A stick is inserted in one of the carriers and the latter is placed at a distance of 80 millimetres from the window of the box and in a plane with the test-type board. A second stick is inserted in the other carrier, which is then run backwards along the groove for a variable distance according to the interval between the nodal points of the observer's eyes, as will be presently explained.

Let us suppose that the observer's base line is 60 millimetres. It will be found that in this case, if his visual acuity with each eye is normal, he will readily appreciate the relative positions of the sticks with both eyes open, when the posterior stick is placed 180 millimetres behind the plane of the anterior stick. Care should be taken to choose the second stick slightly larger than the first so that it may subtend the same angle at the nodal point; a difference of half a millimetre in diameter suffices for this purpose. The interior of the box is illuminated by means of ordinary daylight or by a lamp. If situated between two windows an equal illumination is obtained and no shadows are formed. It is, however, often inconvenient to use daylight, and I have found that a slight adjustment of the lower of the two lamps attached to the revolving test-type box of Messrs. Curry and Paxton will answer the purpose. Care should, however, be taken that if shadow is cast it should be on the front stick. Now an observer regarding the sticks with both eyes open from a distance of six metres under these conditions must form an estimate as to their relative positions from the binocular parallax alone—i.e., from a comparison between the angles subtended by them at the nodal points of the right and left eye respectively. He derives no information from a difference in the apparent size of the sticks as they subtend the same angle. He is not aided by shadows borne by or cast upon them, owing to their uniform colour and the uniform illumination of the box. He derives no assistance from the linear perspective as the extremities of the sticks are hidden. Finally,

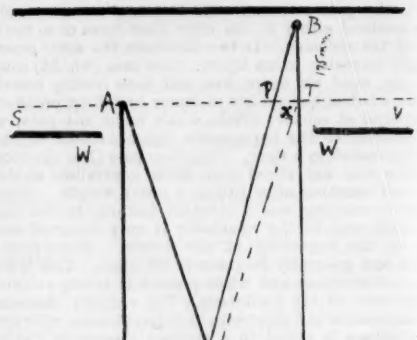
FIG. 1.



Owing to the general blackness of the background the details of the stereoscope are not produced clearly in the block. The sticks appear in the window which itself is not defined. A small angle of the floor is visible. The difference between the length of the anterior and posterior wall is also seen. The whole apparatus folds up into a convenient and portable form.

at the distance at which he is placed the influence of the parallax from slight movements of the head, as also any influence derived from the accommodation are completely excluded. If, therefore, he does not possess binocular vision, and, moreover, if he does not possess this faculty in its highest development, he will be quite unable to appreciate the relative distances of these objects. We may now inquire what is the angle of the stereoscopic parallax under these conditions. A reference to Fig. 2 will explain this matter of the parallax. R and L are the nodal points of the right and left eye distant in the assumed case 60 millimetres apart. W W is the window of the box. A is the anterior stick, distant six metres, i.e., 6000 millimetres, from the eye. B is the posterior stick distant 6180 millimetres from the eye. S V is a plane passing through A parallel with the window of the box. The lateral

FIG. 2.



separation of the two sticks in this plane is taken for convenience of calculation as equal to the base line, i.e., 60 millimetres, but it can readily be shown that, provided the antero-posterior separation of the sticks remains the same, their horizontal separation makes no difference to the result. In the actual apparatus a distance of 50 millimetres has been taken as the lateral separation of the grooves. Join R B, R A, L B, L A; R B cuts S V, which we may call the picture plane, at T and L B cuts this plane at P; R B and L A are parallel. Now, it is obvious that the angle B R A is the angle subtended at the nodal point of the right eye by the two objects B and A, and A T is the value of this angle as depicted on the picture plane. Similarly the angle A L B is the angle subtended at the nodal point of the left eye by the two objects A and B, and A P is the value of this angle as depicted in the picture plane S V; P T is therefore the difference between these two values on the picture plane. It is therefore the chord of angle of the stereoscopic parallax B L T. We require now to know the value of P T in millimetres; when the distance of the anterior stick = 6000 millimetres, the distance of the posterior stick = 6180 millimetres and the base line = 60 millimetres. Let x = the stereoscopic parallax P T. The triangles L A P and B T P are similar—

$$\text{i.e., } \frac{A\,P}{A\,L} = \frac{P\,T}{T\,B'} \text{ i.e., } \frac{60 - x}{6000} = \frac{x}{180}$$

$$6000\,x = 10{,}800 - 180\,x$$

$$6180\,x = 10{,}800$$

$$x = 1{\cdot}74 \text{ millimetres,}$$

but $\frac{1{\cdot}74}{6000} = \frac{0{\cdot}000290}{}$ = approximately the chord of an angle of 1′.

We find, therefore, that if an observer is situated six metres from the front stick, and if his base line = 60 millimetres and the posterior stick be placed 180 millimetres

behind the plane of the anterior stick, the angle of the stereoscopic parallax is 1′. This is the same angle subtended by each line of the letters in the No. 6/6 of the Snellen types. We can therefore infer that a patient who can distinguish the relative distances of the sticks under these conditions must have a visual acuity of 6/6, and we shall find that this is practically the case. We might, of course, have started with the assumption that the normal stereoscopic visual acuity meant the appreciation of an angular parallax of 1′ and substituting x for 180 millimetres in the diagram we could readily have found the distance the posterior stick should be placed behind the anterior. We can do this to ascertain the position of the posterior stick in the case of base lines varying from 50 millimetres in a child to 65 or 70 millimetres in the adult and can thus form a table giving for all the internodal intervals between these two limits, the distances at which the posterior stick should be placed. I append a table giving with a close approach to accuracy the positions of the sticks for five of these base lines and a simple calculation would obtain them for all.

TABLE A.

Base line.	Distance of posterior stick behind anterior.
50	211 millimetres.
55	195 ,,
60	180 ,,
65	165 ,,
70	150 ,,

Now I have said that a stereoscopic visual acuity of 1′ necessitates a visual acuity of a fair 6/6 Snellen in each eye, for it will be found that a decline in the visual acuity of either eye will be intimately associated with a decline in the stereoscopic visual acuity. A patient, therefore, examined with this apparatus at a distance of six metres with the sticks suitably placed is examined not only with regard to his possession of binocular vision in the highest form, but his visual acuity is tested with the same accuracy as with the Snellen types.

Let us suppose now that a patient whose base line is 60 millimetres is unable to appreciate the relative positions of the sticks, when the posterior stick is placed, as it should be in his case, 180 millimetres behind the anterior. Under these circumstances we might conceivably proceed by two different methods to examine both his visual acuity and his sense of the third dimension. We might move the posterior stick still further behind the plane of the anterior stick until a difference in their positions was detected. We should find, however, that if the visual acuity of the patient was only equal to 6/60 or 6/36 in one or both eyes it would be necessary to move the posterior stick to a great distance behind the plane of the anterior. Table B will show approximately the distance at which this stick must be placed from the other for patients whose base line is 60 millimetres and whose visual acuity ranges from 6/60 to 6/6.

TABLE B.

Visual acuity.	Distance of posterior stick behind anterior.
6/60	2372 millimetres.
6/36	1200 ,,
6/24	647 ,,
6/18	545 ,,
6/12	309 ,,
6/9	175 ,,
6/6	180 ,,

It is obvious that a very long consulting room and a much larger stereoscope would be necessary for the examination of those with defective vision under such circumstances; and besides the inconvenience of this and the necessary changes in the size of the sticks there are two other strong objections to this method. In the first place, the interval between the objects is so great that the parallax due to movements of the head cannot be efficiently excluded. In the second case, the second stick is outside the horopter and there is a tendency for the sticks to be seen in physiological diplopia. Accurate estimations—i.e., quantitative as distinguished from qualitative estimations—cannot be made satisfactorily under such conditions. We must therefore resort to the other method—i.e., that of approaching the patient to the stereoscope. Suppose that it is necessary to march him forward three metres before he is able to give an accurate answer as to the relative positions of the sticks, the equation now is—

$$\frac{60-x}{3000} = \frac{x}{180}, \text{ i.e., } 3180\,x = 10800$$

$$x = 3{\cdot}3 \text{ millimetres}$$

$$\text{and } \frac{3{\cdot}3}{3000} = 0{\cdot}0011 = \text{chord of an angle of } 4'.$$

We see, therefore, that while the distance of the patient from the stereoscope has diminished by one-half, the angle of the stereoscopic parallax has become four times as great as it was at six metres. In other words, the parallax is seen to vary inversely with the square of the distance. On moving the patient back to six metres from the board and testing his visual acuity with the Snellen types it will be found only 6/24 in one eye or both, since each line of this type at a distance of six metres subtends an angle of 4′. The rule that the parallax varies inversely as the square of the distance does not so exactly obtain when the change in the distance of the observer from the stereoscope is less than three metres.

I have drawn up a table showing approximately the different positions in which an observer with a base line of 60 millimetres should stand according to the degree of his visual acuity in order that he may recognise the relative positions of the sticks by the aid of the binocular parallax.

TABLE C.

Visual acuity.	Distance from the stereoscope at which the parallax is appreciated.
6/60	1850 millimetres.
6/36	2400 ,,
6/24	3000 ,,
6/18	3400 ,,
6/12	4150 ,,
6/9	4900 ,,
6/6	6000 ,,

The same table will serve for base lines varying from 50 to 70 millimetres provided the posterior stick be moved to suitable distances behind the first, as shown in Table A. I have dwelt on these details for the sake of scientific accuracy, but in ordinary clinical work it is not really necessary to alter the position of the sticks. We may be content with an average and place the posterior stick at 180 millimetres behind the plane of the anterior, remembering, of course, that if the patient be a child with a base line of 50 millimetres the test is a severer one than in the case of an adult with a wider base line, the stereoscopic angle in the former case only being 50″. It will be found, however, that this can readily be appreciated if the child has a visual acuity in each eye of a perfect 6/6 Snellen and letters of 6/5. Conversely in the case of an adult with base line 70 millimetres the stereoscopic angle is larger by 20″ than in the case of the child and larger by 10″ than in the case of the adult with base line 60 millimetres, and the test is accordingly less severe. If the visual acuity of a child be defective it is necessary, of course, that he should be brought closer to the stereoscope and with the same visual acuity he will require to approach closer than the adult in order to appreciate the parallax. Conversely, an adult with base line exceeding 60 millimetres will appreciate the parallax at a greater distance from the stereoscope. The patient should not be approached within two metres of the stereoscope as the accommodation may come into play within this distance, and may influence his statements. It is easy, however, to deceive him by throwing a shadow on the front stick, the accommodative effort not being strong enough to prevent him from basing his conclusions on the greater brightness of the more distant object. It is as well, however, not to introduce this possible source of error. A word as to the method of examining the patient. He is first stationed at six metres and one eye is occluded by a card. He is then asked if one stick appears closer to him than the other or if they seem on a level. He will reply in all cases, if told not to guess, but to state merely what he sees, that they appear on a level. The question is repeated first with one eye occluded, and then with both open—at other distances in the event of defective visual acuity necessitating a closer approach to the stereoscope. Care should be taken at all distances that the head is kept steady, though this of course becomes increasingly important, the nearer he is to the instrument.

The question naturally arises, How are we able to distinguish the position of the sticks by means of the binocular parallax? It is usually stated in the text-books of physiology that as the two eyes occupy a slightly different position in space a different perspective image of the same object or objects is received by the two retinæ, and it seems to be generally supposed that the resulting combined impression is instantaneous and independent of the ocular movements. Such appears to have been the view of Helmholtz,[1] Dove,[2] and others. E. Brücke,[3] on the other hand, maintained that the convergence innervation is our aid in making the estimation, the eyes alternately fixing first one point and then the other. The first view describes what apparently takes place, but scarcely affords a satisfactory explanation of the phenomenon. To Brücke's view there are several objections. I showed at the Ophthalmological Society a year ago an experiment by which the influence of the convergence innervation in this matter could be tested. In the stereoscope I have described two sticks were placed horizontally, their extremities being concealed from view by the margins of the window of the box and supported on hidden uprights. The smaller stick was placed at a higher level than the larger, while the latter was situated 180 millimetres behind the former. It was found quite impossible by anyone to give a correct answer as to the position of the sticks, even when the stereoscope was approached to within two and a half metres. The antero-posterior separation of the objects was the same as when the sticks were placed vertically but the observer had no binocular parallax to guide him and was entirely dependent on the convergence innervation. This is a clear proof that this faculty is readily subject to delusion and cannot be the chief influence at work in this subtle and delicate appreciation. Moreover, the stereoscopic effect is produced by the fusion of images on a plane surface and with the eyes parallel, as in the case of the ordinary geometrical test objects.

It is impossible that the convergence innervation should play an important part in such circumstances. I think, however, that ocular movements are necessary for exact estimations of relative distance, but it seems to me that their influence can be explained in a different way. If we gaze at the two sticks placed, as in Fig. 1, at different distances in the stereoscope and then, occluding one eye, move the head slowly from side to side, we become aware that it is owing to the more rapid movement of the nearer object upon the retina that we form the idea that it is closer to us. If we keep both eyes open and move the head as before the effect is the same, the relative rapidity of movement taking place in this case within the domain of fusion, as the objects are within the horopter. A subconscious comparison is made of the extent of movement of the image of the nearer object on the right retina and the image of the more distant object on the left retina these representing the two extremes within the domain of fusion. Now when the head is kept steady and the eyes are conjugated in the act of binocular vision judgments will still continue to be based as before on this relative rapidity of movement of images within the domain of fusion. Thus when the two eyes rotate from A to fix B, the image of A on the right retina moves more rapidly than the image of B upon the left retina, and the inference is subconsciously drawn that A is nearer to the observer than B. Javal has, moreover, pointed out that as the right eye has to travel across a wider space than the left eye in the same interval of time the unequal innervation involved becomes an additional aid to the judgment.[4] As the objects are brought closer to the eyes this unequal rapidity of movement and unequal innervation take place when they are in a position of convergence, and finally, at still shorter distances the accommodation lends its aid. To understand this view it is necessary, as Javal has insisted, to assume that the eyes start their rotation from a common point of fixation, and that this is the smallest visible point.

It is true that the stereoscopic effect is produced during the passage of an electric spark, an interval of time which does not permit of ocular movements. The impression thus received, however, is relatively vague and does not enable an observer to detect the position of the sticks when he is stationed several metres from the stereoscope. I am therefore inclined to believe that for accurate quantitative measurements of relative distance some ocular movements are necessary, but that when one of the objects is at some distance from the horopter and appears in double images other factors may assist the judgment. Of recent years an ingenious theory as to our methods of localisation under the latter circumstances has been advanced by Schön.[5]

In conclusion I may say that I have found this stereoscope at once the simplest and most accurate of the many tests for binocular vision. It ascertains not only the presence of the stereoscopic faculty, but its degree of acuity. It is a quantitative test, and therefore superior to that of Hering, which gives in comparison with it a relatively vague impression of the third dimension. Owing to the close relation I have mentioned between the visual acuity for form and the stereoscopic visual acuity, the apparatus may be used to examine large numbers of patients in a short time, as in the case of elementary school children who are referred to eye hospitals if their vision is below a certain standard. It might also be used in examinations for the navy, where the visual standard required with both eyes is a high one. I have found it also an aid in training those cases of convergent squint whose eyes by operation or orthoptic exercises have become approximately parallel.

The stereoscope, which is inexpensive and portable, is made by Messrs. Curry and Paxton, Great Portland-street, W. I have also designed a small instrument on the same principle to be used at reading distance.

Harley-street, W.

[1] Physiologische Optik.
[2] Monatsberichte der Berliner Akademie, 1841, 29 Juli.
[3] Müller's Archiv für Anatomie und Physiologie, 1841, p. 459.
[4] Manuel du Strabisme, 1896.

ACIDITY OF THE URINE.

BY FRANK AUGUSTUS WATKINS, M.R.C.S. ENG., L.R.C.P. LOND., L.S.A.

FOR some years past French physicians have claimed to have obtained very marked success in the treatment of certain diseases by the administration of the various combinations of phosphorus which are selected according to the degree of the acidity of the urine. This method of treatment is almost unknown in this country, and yet very little experience of its use is sufficient to demonstrate its beneficial influence in a large percentage of selected cases. In this short communication I propose to outline briefly the principles of the treatment and to narrate a few clinical cases which have derived benefit therefrom, with the hope that other medical men in this country will be induced to investigate the subject for themselves. At a later date I hope to have the opportunity of publishing a much fuller exposition.

The treatment is based upon the assumption that the blood is a definitely acid fluid, and that the reaction of the urine is an index to the state of the blood. This view is, of course, in direct opposition to the general opinion of hæmatologists, who claim that the blood serum is alkaline; though there is much diversity of opinion amongst them as to the most correct method of estimating its alkalinity. No two methods can be compared with each other. The question is a much vexed one at the present moment. Von Noorden, Maly, Friedenthal, and others maintain that the blood is a neutral liquid, whereas Joulie contends that it must be an acid one because it contains in solution the phosphates of calcium and magnesium, which would be immediately precipitated in alkaline or faintly acid media. Fernet, Meyer, and Ludwig have satisfied themselves that the blood always contains free carbon dioxide, which absolutely excludes the coexistence of any free alkali, nor could it contain a neutral carbonate nor tribasic phosphate. The chief reason for supposing that the plasma has an alkaline reaction is because it will turn red litmus paper blue, but litmus does not constitute a delicate test. It is well known that solutions of bicarbonate of sodium, biborate of sodium, and dibasic phosphates will all turn red litmus paper blue; yet they are all chemically acid salts. The so-called alkalinity of the blood is due to the presence of the bicarbonates, which are acid salts. The acidity of the blood is mainly due to the presence of acid phosphates, but their acid reaction to litmus is masked, owing to excess of the bicarbonates which turn red litmus blue.

The estimation of the acidity of the urine per litre is, for the purposes of this treatment, carried out by Boussingault's method of titration with a standardised solution of sucrate of calcium. The end reaction is indicated by the appearance of a faint haze which is caused by the precipitation of tri-calcium phosphate. It is not claimed that this method

[5] Archiv für Ophthalmologie, Band xxi.

estimates the total quantity of acids present, but that it represents the power which the urine has of dissolving the tricalcium phosphate, which latter is the physiological acidity, the practical medical acidity.

Joulie has drawn attention to the many disadvantages and inaccuracies of comparing total quantities of the various ingredients of the urine passed in 24 hours and also the errors pertaining to percentage analyses. These methods are now being superseded in modern work in connexion with urology by a system of ratios. For the phosphoric treatment, it is usual to compare the ratios which the ingredients bear to the solid matter of the urine as represented by the increase of the specific gravity over that of water and express this as a percentage. For this purpose it is necessary that the specimen of the urine for examination should be collected in the morning, whilst fasting, when it will be least influenced by the adventitious excreta from the food. The specific gravity should be taken with a balance (the urinometer not being sufficiently accurate) and the temperature noted. If taken at any other temperature than 15° C. the necessary correction must be made.

To make this procedure more clear let us take the following example. The specific gravity of a specimen at 10° C. is 1015·6 and the estimated acidity (A.) is 0·505 per litre. The specific gravity at 15° C. would be 1015, and the increase of the specific gravity over water (E.) is 15. The (R.A.) ratio of the acidity expressed as a percentage is $\frac{0{\cdot}505 \times 100}{15} = 3{\cdot}36$. The (P.) amount of phosphoric acid per litre calculated as P_2O_5 is estimated by the usual method, introduced many years ago by Joulie, and consists of titrating the urine with a standardised solution of uranium nitrate, and it is convenient to use the tincture of cochineal to indicate the end reaction. The (R.P.) ratio of the phosphoric acid is obtained by multiplying P. by 100 and dividing by E. Supposing this specimen of urine contained 1·4 grammes P_2O_5 per litre, then the R.P. would be $\frac{1{\cdot}4 \times 100}{15} = 9{\cdot}33$.

In normal conditions the R.A. fluctuates between 4 and 5; if the figure is above 5 the case should be considered as one of hyperacidity and if below 4 one of hypo-acidity. In diseased conditions the reaction is most frequently one of hypo-acidity. The R.P. in normal individuals generally ranges between 11 and 11·5; but in disease it deviates considerably; for example, in early neurasthenia it is excessive, but later when the tissues have been impoverished by large losses of phosphates, the R.P. becomes reduced much below normal.

Under normal conditions the ratio which R.P. bears to R.A. is 2·45; and this can be expressed in the following symbols: $\frac{\text{R.P.}}{\text{R.A.}} = 2{\cdot}45$. This is known as Joulie's coefficient, or the acido-phosphoric ratio; and it is this which assigns to phosphatia its true character. When the coefficient is increased it indicates that there is hyperphosphatia, but when decreased there is hypo-phosphatia; for it is evident that the phosphoric acid owing to combination with bases has lost some of its physiological acidity and is being excreted as a neutral phosphate.

Treatment.

It is important that patients suffering from loss of phosphates should partake of a diet rich in these salts. The following articles are enumerated in the order of preponderating percentages: gruyère cheese, haricot beans, mutton, beef, white cheese, eggs, cereals, and milk. Cerebos salt contains 4 per cent. of phosphates, so is an important adjunct to the diet from the point of view under consideration. With regard to drugs, phosphoric acid and its salts, according to the degree of acidity of the urine, are all useful.

If the R.A. is normal then it is important that the phosphate should be given in neutral form. The British Pharmacopœia does not contain such a salt, but Joulie has introduced such a one under the name of sodium sesquiphosphate. Up to the present this body has not been obtainable from English manufacturers, but Mr. Martindale of 10, New Cavendish-street, London, has prepared some for me. It has the empirical composition $Na_3H_3(PO_4)_2$ and may be viewed as an equimolecular compound of Na_2HPO_4 with NaH_2PO_4—i.e., a loose compound of disodium and monosodium phosphates possessing a neutral reaction in solution. It has scarcely any alkaline flavour; it is usual to give two grammes per diem in divided doses. It is a moot point whether there is any advantage in administering the phosphates in an organic form. With regard to iron, the matter has been definitely settled that so long as it is not administered as a combination with nucleo-proteid there is no difference observed in the effect produced by organic and inorganic preparations of iron. But organic iron given in combination with nucleo-proteids is indisputably more rapidly absorbed and acts as a more powerful stimulus to the organs which make the blood. In the same way it is contended that an organic phosphorus in combination with nucleo-proteid acts as a more powerful stimulus in regenerating and building up the body tissues. Everyone is agreed that such organic preparations of phosphorus are absorbed practically without residue, but with regard to the inorganic forms only up to 80 per cent. is absorbed and excreted by the kidneys. One of the preparations of these organic forms of phosphorus is known as sanatogen. It consists of glycerophosphoric acid and pure casein. The phosphorus contained in it is entirely in the organic form and occurs as phosphorus in combination with albumin and as a glycerophosphate. It yields on analysis 1·32 per cent. of phosphorus and 13·14 per cent. of nitrogen. The chief articles of diet in which phosphorus occurs in combination with albumin are eggs, thymus, fish-roe, and calf's brain.

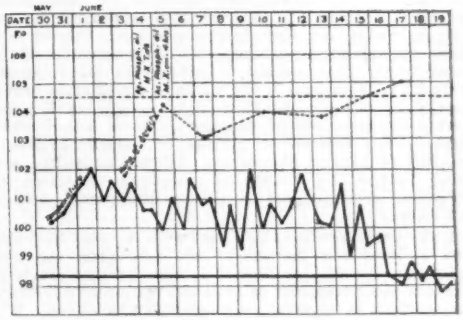
By far the most useful agent for raising the acidity of the urine is phosphoric acid. To arrive at this result experience shows that in certain cases very large doses must be exhibited. This can be safely and conveniently effected by administering it in gradually increased doses well mixed with water and taken with, or immedistely after, meals. Joulie has taken as much as 27 grammes of the officinal acid per diem without the slightest inconvenience, but he was careful to watch its effects upon the urine whilst taking it. It should be diluted with water to make 1 to ½ per cent. solution. Acid phosphate of sodium would be indicated when there is a deficiency of phosphoric excretion accompanied by a mild hypo-acidity. It is usually given in doses up to five grammes per diem.

The specific gravity of hyperacid urine is often much above normal. This is an indication for drinking more fluid and as these patients generally suffer from acid dyspepsia it is well to direct that hot water should be drunk an hour before meals and to such an extent as to maintain the specific gravity below 1020; for this purpose it may be necessary to supply the patient with a urinometer. The alkaline mineral waters are very effective in reducing the acidity of the urine; but during their exhibition it is very necessary to make periodic estimations of the urine so as to regulate the dose of alkalies. The mineral waters most highly esteemed for this purpose are Fachingen, Vichy, and Vals. If the hyperacidity is only moderate it will rapidly yield to effervescing phosphate of sodium. In greater degrees of acidity it may be necessary to give the alkaline phosphate of sodium. It is a much easier matter to lower the acidity than to raise it.

To give a little insight to the practical utility of this method of treatment I will now give a few examples extracted from my case-book.

CASE 1.—The patient, a male, aged 17 years, suffered from acute rheumatism affecting the knees, ankles, shoulders,

FIG. 1.



Rise of R.A. coinciding with fall of temperature after administration of P_2O_5

and wrists. Phosphoric acid treatment was commenced on the seventh day of the disease. After two days' treatment the pain had greatly subsided and no fresh involvement of

the joints took place from that date although the fever continued to run its course. On the third day of phosphoric treatment the patient was quite free from pain and had so far recovered that he was able to move about quite freely in bed. There was no heart complication and this was more noteworthy when we consider that his age was 17 years and that this was his second attack of rheumatic fever—two conditions which predispose to carditis. It will be noted in the accompanying chart (Fig. 1) that the administration of the P_2O_5 was followed by an immediate and continuous rise in the R.A. and that it approached normal at the same time as the defervescence of the temperature and the establishment of convalescence.

CASE 2.—The patient, a man, aged 38 years, under the care of Dr. J. G. Blackley, was suffering from diabetes mellitus and excreting 150 grammes of glucose per diem; the duration of the disease was eighteen months. The phosphoric treatment was begun on May 21st, 1907, when the R.A. was 1·49 and the R.P. 2·89. In spite of large doses of the acid the R.A. only rose to 2·52 but the R.P. was raised to 8·38 (see Analysis No. 1). This is, of course, proof that the acid was absorbed into the general circulation and that the body tissues were being bathed with plasma having a much richer phosphorus content, but as the excretion of P_2O_5 was still defective I determined to increase it by the addition

ANALYSIS NO. I.—*Analysis of the Urine in Case 2.*

Date.	Specific gravity.	Acidity.	R.A.	R.P.	Coefficient of Joulie.	Quantity of P_2O_5 in 24 hours.	Body weight.	Treatment.
							st. lb.	
17/5/07	1041·2	0·503	1·45	2·80	1·9	—	9 1	—
18/5/07	1031·6	0·412	1·49	2·89	1·9	—	—	—
21/5/07	—	—	—	—	—	—	9 1	Ac. phos. dil. ℥vi. t.d.s.
25/5/07	1041·4	0·499	1·58	4·45	2·8	2·49	—	Ac. phos. dil. ℥xii. t.d.s.
1/6/07	1040·3	0·629	1·86	5·04	2·7	—	9 3	Ac. phos. dil. ℥xviii. t.d.s.; sanatogen 3i. t.d.s. added and continued throughout.
8/6/07	1038·4	0·381	1·4	5·14	3·6	—	9 4	Ac. phos. dil. decreased.
15/6/07	1039·9	0·544	1·58	4·66	2·9	—	—	Do.
22/6/07	1037·8	0·592	2·13	6·47	3·0	4·72	9 5	Ac. phos. dil. stopped.
29/6/07	1037·8	0·753	2·52	8·38	3·3	4·15	—	Do.
6/7/07	1034·2	0·621	2·37	8·01	3·3	—	9 8	Do.
13/7/07	1029·6	0·126	0·59	6·57	11·1	—	—	—

of sanatogen, which was persevered with during the whole time, the phosphoric acid being discontinued. During the treatment the condition of the patient improved immensely; the thirst disappeared and the tongue, which had been very raw-looking, became much more normal in appearance. On July 9th the clinical notes record "the patient is feeling very fit." The very material improvement in the patient's condition is best indicated by noticing the increase of weight of 7 pounds during the seven weeks' treatment. There was no difference in the amount of glucose excretion. Joulie has recorded a number of cases of diabetes in which, after some three or four months of phosphoric treatment, the glycosuria suddenly and completely disappeared, and did not return.

I was much struck in this case with the fact that there was no additional increase of the R.P. when the treatment was altered. It is well established that nearly the whole of the phosphorus is absorbed from such albuminous preparations as glycerophosphoric acid and casein. Why, then, was not the excretion of the phosphoric acid increased? Plainly, the answer is that it was retained by the economy and used up in building up fresh tissue, as proved by the increase of weight.

I then made an observation on a healthy man to test the circumstances under which phosphoric excretion would be increased. Previous to making the observation his phosphoric urinary excretion was estimated for six consecutive days. The daily average yield amounted to 3·16 grammes. He was then given three drachms of sanatogen per diem for five days, and the average daily urinary excretion during that period amounted to 3·25 grammes; the difference in the daily P_2O_5 excretion during the two periods was an increase of only 0·09 gramme in the latter. During the latter period the increased daily P_2O_5 intake, amounted to 0·352 gramme. It seems reasonable to suppose that 0·262 gramme was retained by the economy owing to a condition of phosphorus hunger, in spite of his apparent condition of health. A second observation was subsequently made. The R.P. was estimated for six consecutive days in a man suffering from phosphatia; this estimation proved to be 17·32. He was then given one drachm of sanatogen three times a day for five days and the average R.P. during that period amounted only to 16·74.

In cases of phosphaturia accompanied by malnutrition, especially in cases of neurasthenia, this treatment may be a most potent factor in building up the body tissues. I have proved it time after time. Take for example, a woman, aged 31 years, who had been suffering from neurasthenia for three years. On July 18th the urinary analysis gave the following result: $\frac{\text{R.P.} = 11·36}{\text{R.A.} = 5·12} = 2·1$. Body weight, 8 stones 3¾ pounds. On Sept. 12th—that is, eight weeks afterwards—she scaled 8 stones 10 pounds and her general health improved in every way.

CASE 3.—A female, unmarried, aged 30 years, a neurasthenic, had been a great invalid for four years, and practically bedridden for the last two and a half years. The urinary analysis on April 24th gave the following:— $\frac{\text{R.P.} = 6·7}{\text{R.A.} = 7·2} = 0·93$. She was put on a course of the effervescing phosphate of sodium as she was suffering from hyperphosphatia and increased urinary acidity. Analysis No. 2 shows that this treatment very soon reduced the acidity and raised the phosphoric ratio to normal. In two months' time

ANALYSIS NO. II.—*Analysis of the Urine in Case 3.*

Date.	Specific gravity.	Acidity.	R.A.	R.P.	Joulie's coefficient.	Treatment.
24/4/07	—	1·696	7·20	6·70	0·9	—
25/4/07	—	1·790	8·42	7·57	0·9	—
6/5/07	1021·0	1·180	5·52	8·69	1·6	Efferves. sodii phosph. 5i. t.d.s.
16/5/07	1014·5	0·460	3·18	11·03	3·4	Efferves. sodii phosph 5ss. t.d.s.
23/5/07	1025·1	1·814	7·22	15·93	2·2	Efferves. sodii phosph. 5i. t.d.s.
30/5/07	1019·3	1·123	5·82	15·54	2·6	Efferves. sodii phosph. 5i. t.d.s.; magnes. hydrat. gr. v.
10/6/07	1011·2	0·490	4·37	9·82	2·2	Efferves. sodii phosph. 5i. t.d.s.; magnes. hydrat. gr. v.
21/6/07	1018·5	0·807	4·48	11·35	2·5	Efferves. sodii phosph. 5i. t.d.s.; magnes. hydrat. gr. v.
11/7/07	1022·6	1·355	5·99	12·83	2·1	Efferves. sodii phosph. 5i. t.d.s.; magnes. hydrat. gr. v.
2/8/07	—	—	—	—	—	Efferves. sodii phosph. 5i. t.d.s.; magnes. hydrat. gr. v.
7/9/07	1018·2	0·637	3·09	9·70	3·1	Efferves. sodii phosph. 5ss. t.d.s.; magnes. hydrat. gr. v.
1/10/07	1014·6	0·551	3·77	10·20	2·7	Efferves. sodii. phosph. 5ss. t.d.s.; magnes. hydrat. gr. v.

her general health had so much improved that she was able to be up nearly all day, to walk from room to room with support, and to undertake a good deal of fancy needlework; she also increased in weight considerably.

CASE 4.—The patient, a married woman, aged 36 years, was a neurasthenic and had been subject to epileptiform fits for four years. The fits came on generally in the morning, soon after waking, and were preceded by jerking of the limbs, and on one occasion she bit her tongue in a fit; latterly she had been having a fit once a month. On March 23rd the urinary analysis gave the following result:—R.P. = 16·4 / R.A. = 1·7 = 9·5. She was given acid. phosph. dil. ℥x. t.d.s. and sanatogen. Her general health improved at once. She had a fit in April and another in July, but none since—i.e., only two fits in eight months.

CASE 5.—The patient, a single female, under the care of Dr. Blackley, was suffering from chloro-anæmia. Analysis

ANALYSIS NO. III.—*Analysis of the Urine and Blood in Case 5.*

Date.	Specific gravity.	Acidity	R.A.	R.P.	Joulie's coefficient.	Number of red blood-cells per c.mm.	Number of leucocytes.	Hæmoglobin (per cent.).
30/4/07	1008·5	0·188	2·21	16·47	7·4	4,060,000	13,330	57
6/5/07	1007·8	0·235	3·01	14·10	4·7	5,330,000	10,200	55
14/5/07	1008·3	0·412	4·96	13·26	2·6	—	—	—
23/5/07	—	—	—	—	—	5,230,000	7,550	81
4/6/07	1011·2	0·494	4·41	14·28	3·2	6,070,000	—	83

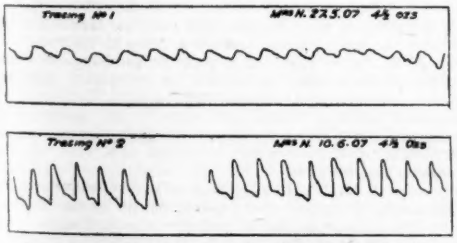
No. 3 shows how the anæmia disappeared under the influence of protoxalate of iron; but simultaneously the R.A. rose to normal and the hyperphosphatia in great measure disappeared.

CASE 6.—The patient, a married woman, had been a neurasthenic for many years. She was suffering from acid intoxication, and as a consequence of the toxins circulating in the blood-stream her arterial blood tension was much raised, as indicated by the sphygmographic tracing attached to Analysis No. 4. She was given a course of electric light baths under Dr. E. A. Neatby's supervision, and this was followed

ANALYSIS NO. IV.—*Analysis of the Urine in Case 6.*

Date.	Specific gravity.	Acidity.	R.A.	R.P.	Joulie's Coefficient.	Treatment.
30/3/07	—	1·094	7·76	12·98	1·7	—
23/5/07	—	—	—	—	—	Light baths—two per week.
25/5/07	1011·1	0·725	6·53	9·00	1·3	,,
1/6/07	1011·2	0·719	6·42	10·71	1·6	,,
15/6/07	1016·0	0·544	3·40	5·62	1·6	,,
29/6/07	1009·7	0·538	5·55	8·24	1·4	Stopped the baths. Efferves. sodii phosph. 3ss. t.d.s.
13/7/07	1011·3	0·573	5·07	11·94	2·3	Efferves. sodii phosph. 3ss. t.d.s.

FIG. 2.



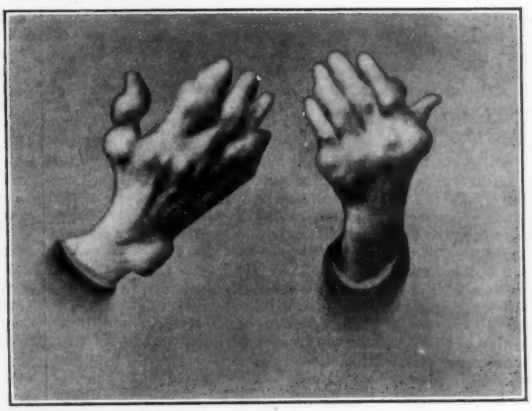
Sphygmographic tracings of Case 6. Arterial tension before and after electric light baths.

by some material improvement in her general health. The urinary analysis shows that the baths reduced the acidosis, and the second pulse-tracing demonstrated that it was accompanied by a lowering of the arterial tension. (Fig. 2.) She was receiving no phosphoric treatment during that time.

I have recorded these two latter cases to show that the urinary ratios can be rectified by other means than the phosphoric treatment. The diseases most amenable to this treatment are neurasthenia, chronic arthritis, diabetes mellitus, chronic eczema, psoriasis, fermentative dyspepsia, and gout.

CASE 7.—The patient was an elderly man, suffering from enormous gouty deposits in the hands and feet; he was also afflicted with senile dementia. Appended is a reproduction of a photograph of this patient's hands (Fig. 3) and a note

FIG. 3.



Reproduction of photograph of the hands of Case 7.

of the urinary analysis. It will be noticed how remarkably it coincides with the semiological values of Type V. of Joulie's scheme.

ANALYSIS NO. V.—*Analysis of the Urine in Case 7.*

Date.	Specific gravity.	Acidity.	R.A.	R.P.	Joulie's coefficient.
11/4/07	1005·7	0·333	5·81	5·24	0·9

Type V. of Joulie's scheme ... ... { Metabolism diminished. Fermentative dyspepsia. Demineralisation advanced. Arthritism.

I am aware that this short paper is deficient in many important details, but this is inevitable owing to lack of space. Anyone with a knowledge of pathological chemistry can readily work out for himself any omissions which I have made with regard to the estimations. I hope the clinical cases which I have quoted will be sufficient to induce other medical men to take up the treatment for themselves. I could have mentioned many other cases of equal success in my own practice and that of other medical men for whom the necessary analyses were made in my laboratory. French literature also abounds in testimony as to the value of the phosphoric treatment.

Denmark Hill, S.E.

UNIVERSITY COLLEGE, LONDON.—Dr. C. Spearman has been reappointed reader in experimental psychology. The Andrews Science Scholarship (£30) has been awarded to Mr. B. A. Keen, of Southend Technical School. The assembly of the College faculties has been fixed for Thursday, July 2nd, at 3 o'clock, when the Dean of the Faculty of Arts, Professor A. F. Pollard, will read a report on the work of the session. The results of the University, scholarship, and class examinations will be announced. Scholars and medallists will be presented to the Right Hon. Sir Edward Fry, F.R.S. (Fellow of the College), who will deliver an address.

A CASE OF SARCOMA OF THE RIGHT OS INNOMINATUM SIMULATING APPENDIX ABSCESS.

BY ERIC H. R. HARRIES, M.B., B.S. LOND., M.R.C.S. ENG., L.R.C.P. LOND.,
SENIOR RESIDENT MEDICAL OFFICER, VICTORIA HOSPITAL FOR CHILDREN, CHELSEA.

THE following case seems worthy of record if only as an addition to the long list of pathological conditions which clinically have simulated appendix abscess.

The patient, a girl aged 12 years, was sent to the Victoria Hospital for Children on the evening of April 12th, 1907, by a local practitioner with a diagnosis of appendix abscess. The only history that could be elicited from the parents at the time was that four days previously the child had been seized with a sudden attack of pain in the right side of the abdomen. The pain extended down the right leg and the patient had been unable to walk. It had been noticed that the right leg was kept "bent." The child had been constipated. She had not vomited. The histories given by patients and particularly by parents are proverbially unreliable and it should be added that *after* the child had been operated on the father admitted that the patient had limped a little and had had slight pain in the right leg for the previous two months. Had this information been given at the time of admission it might have thrown considerable light on the case. The following points were made out on examination. The patient was thin and somewhat anæmic. Her right leg was markedly flexed at the hip, but it was found that the movements at the joint were quite free. In the right iliac fossa there was a visible swelling. The abdominal muscles were kept rigid, but it was found that the swelling was extremely tender on palpation, was not moveable, and was not definitely fluctuating. The tenderness was localised to the right iliac fossa. In addition there were an enlarged gland—hard and moveable—in the right anterior triangle of the neck and a small point of pus on the right tonsil which was slightly enlarged. There were no enlarged glands to be felt elsewhere. The tongue was dry and thickly furred, the pulse was 160 and "wiry" in character, and the temperature was 100·4° F. The lungs and heart presented nothing abnormal.

Mr. Joseph Cunning, surgeon to the hospital, saw the case shortly after admission and decided on immediate laparotomy. A catheter was first passed and a small quantity of urine was drawn off. A longitudinal incision two inches in length was made over the most prominent part of the lump. When the abdominal muscles were cut through a fluctuating swelling, composed of muscular tissue externally, presented in the wound. A small opening was made in this with the scalpel and three or four ounces of clear serous fluid escaped. The interior felt to the finger like the mucous membrane of intestine. The wall was, however, about three-eighths of an inch in thickness, and on closer examination the muscle composing it was seen to be skeletal. The puncture was sewn up and the original incision in the wall of the abdomen was enlarged. The peritoneal cavity was not opened. On introducing a finger into the wound and passing it downwards toward the pelvis a large quantity of rather gelatinous material was felt and this was cleared away as completely as possible. When this was done there was found to exist extensive necrosis of the ilium, a sharp crumbling ridge surrounding a cavity in the body of the bone being felt. The débris was cleared away and the cavity was plugged with gauze. The swelling which first appeared was apparently the iliacus muscle forced up from its attachment by a collection of fluid beneath.

The subsequent course of the case was as follows. For a month after the operation the wound was dressed daily. There was at first considerable discharge of blood-stained gelatinous material, but this decreased somewhat. It was noted, however, that the abdomen became increasingly distended and more resistant. More enlarged glands in the neck appeared. On May 20th the following note was made: "During the last few days the child has become mentally duller and is deaf. Bare bone can be felt by the probe at the bottom of the wound. The right leg is drawn up more than before." On the 25th it was noted that the superficial veins over the lower half of the abdomen were very prominent. On the 27th a second operation was performed by Mr. Cunning. The original wound was enlarged and a large mass of very foul-smelling tissue (? infected by bacillus coli) was removed by the finger. A considerable portion of the ilium was found to be invaded, but apparently the hip-joint was not involved. A portion of the growth (in which pieces of bone were imbedded) was sent to the Lister Institute for a report. Dr. J. C. G. Ledingham reported that "microscopically the growth is a large round-cell sarcoma." The patient continued to go steadily downhill. On June 3rd she complained of considerable pain in the neck: the parotids were both enlarged. On the following day the glands in the neck—which throughout had remained hard and had never shown any tendency to suppurate—seemed to undergo rather rapid further enlargement and became softer, a condition of angina was produced, and there was marked dyspnœa. The child died early on June 5th. During the last few days of life the stench from the abdominal wound had become very offensive and a fairly successful attempt to overcome it was made by dusting in equal parts of iodoform and boric acid, plugging the cavity with gauze and finally covering with pieces of gauze soaked in sanitas.

The following are the main points of the necropsy which was performed by Dr. Ledingham of the Lister Institute. Both pleural cavities contained a large amount of blood-stained serous fluid. There were old pleural adhesions on the right side. Both lungs were exceedingly œdematous but crepitant. In the paravertebral hollow on the right side over the vertebral extremity of the sixth and seventh ribs was an oval soft tumour of about the size of a walnut. On cutting into it soft greyish diffluent material escaped and the seventh rib underlying was found to be eroded. The pericardium contained two ounces of clear serous fluid. There were no enlarged mediastinal glands. The liver was enlarged and there was fatty infiltration. The spleen was slightly enlarged and very diffluent; three round whitish tumours of the size of a large pea were found in its substance. (The metastatic spleen nodules were found histologically to present the same characters as the primary bone tumour.) The intestines, pancreas, and kidneys showed no pathological change. The mesenteric glands were not enlarged. The right iliac fossa was found to be invaded by an irregular infiltrating diffluent growth. The muscles and fatty tissue in the neighbourhood were all involved. On cutting into them purulent grumous material escaped in large quantities. Douglas's pouch was filled with material like laudable pus. The ilium at the base of the growth was found to be greatly eroded. The right psoas-iliacus was completely atrophied. The hip-joint was not implicated. Parotid region: Both sides cut into. On the left a large amount of blood-stained grumous material escaped and on the right similar fluid escaped but was more gelatinous in consistence.

For permission to make use of the notes of the case I am indebted to Mr. Cunning.

Chelsea, S.W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

Supports of the Female Pelvic Viscera.

A MEETING of this section was held on May 14th, Dr. HERBERT R. SPENCER, the President, being in the chair.

Dr. R. H. PARAMORE read a paper on the Supports of the Female Pelvic Viscera, in which he contended that the supports of the pelvic viscera could not be discovered by anatomical research alone, but that it was necessary to investigate conjointly with the actual living processes. A full abstract of the paper will be found on p. 1760. In the discussion that followed

Professor A. M. PATERSON (Liverpool) said that with regard to the means of support of the pelvic viscera he was inclined to lay little stress on the so-called "intra-abdominal pressure," nor did he ascribe great importance to the power of the pelvic ducts, vessels, and perivascular connective tissue to maintain the viscera in position. There were, however, two series of structures essentially responsible for the maintenance of normal conditions within the pelvic cavity. The

structures comprising the pelvic floor formed, in his opinion, the chief factors in supporting the viscera—the symphysis pubis, triangular ligaments and compressor urethræ, perineal body, levatores ani and external sphincters, and the ano-coccygeal body. Any laceration or weakening of these structures would predispose to prolapse of the superimposed viscera. The rectal ampulla, when distended by fæces, was capable of serving as a support for the vagina and uterus. It was the genito-urinary passages—prostatic urethra or vagina and urethra—that were bound down to the pelvic walls and floor in their course to the perineum. This was effected by means of a special investment of the pelvic fascia (suspensory ligament of the vagina and urethra) which, springing from the sides of the pelvis in the neighbourhood of the ischial spine as a well-defined sickle-shaped fold, swept inwards to envelope the urethra and vagina, leaving a clear portion of the pelvic cavity behind for the passage of the rectum. This fold of pelvic fascia was very vascular. It separated into two layers, of which one swept across the middle line (recto-vaginal layer) and, separating the vagina from the rectum, was attached below to the perineal body. The upper layer had an attachment to the white line and became the lateral true ligament of the bladder. Below the bladder in front it became the anterior true ligament of the bladder on each side, and gained attachment to the symphysis pubis. The ligamentum transversale colli of Mackenrodt was probably represented by the free edge of this band of pelvic fascia, which gained attachment to the lateral fornix of the vagina.

Dr. ARTHUR KEITH said that his investigations led him to infer that prolapse, partial or complete, of the pelvic viscera was primarily prevented by the action of the musculature of the pelvic floor. It was necessary to distinguish two distinct problems:—(1) The manner in which the uterus is maintained in its normal relationship to the pelvic floor; and (2) the manner in which the uterus is maintained in its normal relationship to the pelvic viscera. At the present time three structures were regarded as normal uterine supports:—(1) The musculature of the pelvic floor; (2) the visceral ligament of the pelvic fascia; and (3) the strong perivascular and perineural sheaths which surround the pelvic vessels and nerves. It was not to the perineural and perivascular fibrous supports that the primary duty of supporting the uterus could be ascribed. They served primarily to safeguard the blood and nerve supply of the uterus. The manner in which a Hodge's pessary supported a uterus which tended to become prolapsed was simply by expanding and keeping expanded and rigid the vagina, whereby the damaged levatores ani which could get no purchase on a flaccid vagina could obtain a hold on and keep up a rigid vagina.

Dr. W. E. FOTHERGILL (Manchester) adhered to the views which he had previously expressed as to the supports of the pelvic viscera. It required but a slight mental effort to imagine a woman with a perfect levator ani and perineum in whom the uterus, vagina, and bladder had been completely freed from their attachments and lay loose within the pelvis resting upon the upper surface of the pelvic diaphragm. Did anyone suppose that the organs would remain there for long? The pelvic diaphragm and the sphincter layer of muscles could not prevent the escape of the fœtus or of a mass of fæces. Why should it be supposed that they prevented the escape of the plastic mass formed by the uterus, vagina, and bladder? It was obvious that these organs were normally supported by the connective tissue intervening between them and the sides of the pelvis, and the important portion of this connective tissue was that forming the perivascular sheaths.

Mr. E. HASTINGS TWEEDY (Dublin) said that Dr. Paramore had furnished them with anatomical data which clearly showed that strong ligaments crossed the lateral fornices and formed, in Dr. Ovenden's words, "easily defined and striking objects"; that they were of themselves capable of supporting the uterus in a normal position; that when they were severed the cervix sagged downwards, and this in spite of the fact that all the other uterine ligaments were uninjured. There was convincing proof that these ligaments, when acting normally, kept the cervix tucked upwards and backwards, and when performing that function they were subjected to no greater strain than those which affected other similar structures—as, for instance, liver ligaments. The levator ani muscle was essentially the muscle which kept the vagina from deformity, and, offering a counter-force to the intra-abdominal pressure, it enabled the anteflexed uterus to lie between these forces with little aid from its ligaments. If, however, the cervix descended it was powerless to maintain the uterus in anteflexion, nor could it do so if the uterus had once fallen into retroflexion. A tear in the pubo-coccygeal fibres would inevitably result in the occurrence of cystocele and rectocele, with slow descent of the cervix. He had never seen a procidentia due to childbirth in which the cervix was not torn.

Professor H. BRIGGS (Liverpool) held, on both anatomical and clinical evidence, that the pelvic viscera were supported by (*a*) the levatores ani; (*b*) their dense lateral pelvic fasciæ; and (*c*) the perivascular and other loose cellular tissue. The integrity of the pelvic supports, like the integrity of a joint, did not depend upon ligaments.

Dr. ALEXANDER MACPHAIL (Glasgow) remarked that he would emphasise the distinct attachment of the levator ani to the vaginal wall close to the cervix, and the close connexion established there with the visceral layer of the pelvic fascia, the latter probably being the more important in the matter of uterine support. The *via media* of attributing the supporting function both to the "suspensory fascia" and to the "pelvic diaphragm" seemed to him to be the only sound course from the anatomical point of view.

Dr. H. MACNAUGHTON-JONES still believed that there was a combination of forces at work in the pelvis in resisting any downward pressure on the uterus and maintaining it in its normal relation to the other viscera.

Dr. W. S. A. GRIFFITH'S view of the levator ani was that it was an auxiliary means for the support of the pelvic organs put into action to resist special strains, while the general pelvic fascia which formed a continuous sheet varying in density in certain positions was the chief support against ordinary conditions of pressure. The injuries produced by childbirth were the great determining cause of prolapse.

Dr. J. INGLIS PARSONS could not agree that the uterus was maintained in its position by the intra-abdominal pressure with or without the pelvic floor. He could point to his own operation of injecting the broad ligament so as to increase the strength of the pelvic band. This operation demonstrated that the uterus could be kept up by even one ligament if it were strong enough. In conclusion, he would say (1) that the chief factor in supporting the uterus was the connective tissue with elastic and muscular fibres passing from the uterus in various directions to the walls of the pelvis, first described by Savage; (2) that the pelvic floor also helped indirectly to keep up the uterus by preventing prolapse of the vagina; and (3) that intra-abdominal pressure did not keep up the uterus but was the chief factor in causing prolapse.

The PRESIDENT said that the section was indebted to Dr. Paramore for his valuable *résumé* of the views held on the supports of the uterus and to the distinguished anatomists who had taken part in the discussion and who had taken a wider view of the matter than that of Dr. Fothergill at a previous meeting. The truth appeared to be that the supports of the uterus were of a composite character, including atmospheric pressure, muscles, ligaments, and fascia. Some confusion, he thought, arose from speaking of the uterus being supported by intra-abdominal pressure; it was rather extra-abdominal or atmospheric pressure, the retentive power of the abdomen of Matthews Duncan.

Dr. PARAMORE replied.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.—Congenital Stenosis of the Pylorus in the Adult.—The Treatment of Aneurysm by Electrolysis.—Chronic Inflammatory Œdema of the Submucous Tissue of the Nose.

A MEETING of this society was held on June 3rd, Dr. JAMES KITCHIE, the President, being in the chair.

Mr. J. M. CAIRD exhibited two cases. 1. A boy, aged 14 years, who had received a severe Crush in the Lumbar Region, with hæmorrhage into the mesenteric subperitoneal tissue and kidney. Pain was intense all over the right side of the abdomen, with vomiting and rapid pulse. On opening the abdomen the cavity was found to be full of blood-stained serum. The transverse colon was collapsed and paralysed. After washing out the abdomen the appendix, which was long, was taken through the abdominal wall and opened outside so as to act as a safety valve were the gut actually paralysed. Two days later fæces and flatus passed through the appendix. 2. A man, aged 25 years, who had been operated on for a Ruptured Gastric Ulcer, which was in the

shape of a large rent in the pyloric region. Gastro-jejunostomy was also performed. Three days after the operation he became collapsed and cold and was in a very grave condition. The abdomen was greatly swollen, and on opening it, coils of black intestine were found. Mr. Caird removed 10 feet 4 inches of the ileum, and after transfusion the patient made a rapid recovery. During the first five days he was troubled with diarrhœa but he was now quite well.

Mr. C. W. CATHCART exhibited a woman who had suffered from Hysterical Ankylosis of the Lower Jaw. One condyle had been excised in 1901 and a second operation was performed in 1904. In 1908 the jaws were so firmly closed that liquid food could only be given through an opening produced by removing two lower incisor teeth. Fibrolysin had been tried without benefit. Mr. Cathcart had proposed to remove a wedge from the left and possibly from the right sides, but when the patient was under chloroform the jaw was found to be moveable. The question was, Was the affection functional from the first or did functional closure only supervene after one or other of the operations?

Dr. WILLIAM RUSSELL read a paper on Congenital Stenosis of the Pylorus in the Adult. He said that the cause of stenosis to be discussed had been sparingly and hesitatingly recognised as even a possible one and yet it might be shown that it ought to be given a place in the common list of causes. The commonly recognised causes of stenosis were: (1) ulcer; (2) cicatrix; and (3) malignant disease. Any of these might cause recurring spasm—contraction of the pylorus going on to muscle thickening. The spasm was caused by local irritation and was an important factor in occluding the pyloric outlet. The main results were those of stomach dilatation or stomach ptosis and a very important sign of the affection was visible stomach peristalsis. The latter when present excluded the possibility of the dilatation or ptosis being due to muscular atonicity, which might result from catarrh, anæmia, or nervous debility. It was only in pyloric obstruction associated with the retention of muscular power in the walls of the viscus that this sign would be present. Dr. John Thomson had ascribed the first case of congenital stenosis which had been recorded to Williamson of Leith in 1841, but Professor William Osler had ascribed it to Dr. Beardsley in 1788. In 1879 Heinrich Landerer published a thesis dealing with this condition and described ten cases in which he had noted pyloric narrowing of congenital origin. The ages of his patients varied from 43 to 63 years. In 1885 Professor Rudolf Maier of Freiburg gave a short account of 31 cases in which he had found on post-mortem examination a pyloric stenosis which he believed to be congenital. The ages of his patients varied from 12 to 75 years. In none of these was the narrowing associated with coarse structural lesions. He divided his cases into two groups: (1) a simple form; and (2) a combined form. The latter contained cases in which in addition to stenosis there was thickening of the pylorus. In the first group narrowing was present without other change at the pylorus and he considered that these were without doubt congenital. Those cases accompanied by pyloric thickening in addition to stenosis he examined more fully and argued more closely in support of their congenital nature. Later developments had strengthened his contention that a combined form was met with in the adult. The next important step was the recognition that hypertrophic pyloric stenosis in infants was a pathological and clinical fact. Hirschsprung in 1888 seemed to have been the first to describe the condition and Dr. John Thomson drew attention to the subject in 1897. Early in infant life a stenosis of the pylorus due to, or accompanied by, marked thickening of the muscle of the pylorus might be present and was commonly regarded as congenital, but it did not appear that any other form of stenosis had been observed in infants; in other words, no examples of the class called by Maier simple stenosis had been described. All degrees of stenosis were present and only the severe cases were seen by the expert and it was only in such that surgical aid was required. Controversy had arisen as to the part that spasm of the pylorus took in the production of the hypertrophy and of the stenosis. Pfaundler went far when he held that the condition was entirely one of local cramp or spasm and that it could be successfully combated by medicinal and dietetic measures. There were degrees of stenosis and a certain degree of hypertrophic pyloric stenosis was not incompatible with infant life and in spite of its presence life might be continued into childhood and even onwards. That, so far as Dr. Russell knew, there was no recognition of what Maier called simple stenosis was to him inexplicable. With regard to the present medical position of the condition Allbutt did not mention the fact that congenital stenosis might be a cause of dilatation of the stomach. Ewald included the condition amongst the mechanical constrictions met with at the pylorus. Van Valyah and Nisbet had recognised it in infants and had stated that with the observance of a proper diet those affected might live into adult life. Riegel, writing this year, referred to congenital narrowing of the pylorus as being due to muscular hypertrophy of the pyloric sphincter and as leading to early death. Osler had asked whether some of the cases of dilated stomach with thickening or hypertrophy of the pylorus might not be congenital. As to the present surgical position, Cautley and Dent had referred to three cases as suggesting a congenital origin. Mayo Robson and Moynihan affirmed that a congenital abnormality of the pylorus of indeterminate character might after the lapse of few or many years become so altered or added to as to cause symptoms of pyloric obstruction. At the date of writing Mayo Robson had only operated upon one such case in a young man aged 24 years. Maylard of Glasgow had in 1903 written a paper on Congenital Narrowness of the Pyloric Orifice. The occurrence in the adult of congenital stenosis was an established fact and might in many cases give rise to chronic gastric trouble. It was probable that both the simple and the hypertrophic forms were to be found. Dr. Russell narrated three cases which had come under his observation. 1. A man, aged 34 years, complained of vomiting and abdominal pain, and these had persisted for six weeks. Dyspepsia had troubled him during 15 years. The pain and discomfort usually came on one hour after eating and were often relieved by vomiting. The vomit might consist of what he had eaten during the preceding days and had sometimes been dark in colour and frothy. He had been treated for dilated stomach 12 years previously. He had lost flesh and was very constipated. The stomach was greatly dilated and proptosed. As much as three pints had been removed by the stomach tube. The total acidity of the gastric contents was high and there was much free hydrochloric acid. Pyloric obstruction was obviously present. Gastro-enterostomy was performed and there were no adhesions or evidences of recent or old ulceration. The difficulty at the pylorus was due to an indurated and apparently fibroid condition of the pyloric ring. The patient made a speedy recovery and there was no return of pain. 2. A man, aged 42 years, complained of vomiting, constipation, and giddiness, with rapid emaciation during the preceding two weeks. All his life he had suffered from gastric troubles in the shape of attacks of vomiting which might persist for some days. To lessen the frequency of these attacks he had to exercise great care as regards his diet. During the preceding six weeks his symptoms had become greatly aggravated. On examination gastric dilatation and ptosis were present and on manipulating the abdomen gastric peristalsis became visible. There was abundant free hydrochloric acid. Gastro-enterostomy was performed and it was found that the pyloric opening allowed only the point of the finger into but not through it. 3. The patient was a woman, aged 51 years, small, spare, and badly nourished. All her life she had suffered from indigestion but the symptoms had been much more severe during the preceding four years. Gastric pain and vomiting were the chief symptoms and latterly vomiting of coffee-coloured material was noticed. The stomach was dilated and proptosed and exhibited visible peristalsis. No free hydrochloric acid was present in the stomach and yet a diagnosis of congenital stenosis of the pylorus was made. Gastro-enterostomy was performed and the pylorus was found in the condition expected, but there was in addition a malignant growth high up at the fundus and irremoveable. As regarded diagnosis, this, said Dr. Russell, had to be made from such particulars as the following. There was a long history of stomach trouble, relieved by strict attention to diet. There might be a history of supposed bilious attacks dating from childhood. In the three cases narrated the previous attacks had been overcome by ordinary dietetics and medicinal means. The patients had come to hospital, however, because their usual remedies had failed. As to the symptoms, there were those of stomach dilatation or of gastric dyspepsia, vomiting only occurring in the more severe attacks. These attacks tended to become intensified with repetition and a something happened not until life was fairly advanced and which led to all the symptoms of pronounced pyloric

obstruction. As a rule in advanced cases stomach dilatation was easily made out and visible gastric peristalsis was not infrequent. When the latter was observed the pyloric end of the stomach also contracted and was thus easily located. In none of the three cases was any permanent pyloric thickening observed; they belonged to the simple form of stenosis. When the pyloric spasm occurred the pylorus became hard and thick, but when the spasm relaxed the pylorus softened. This spasm could be caused by the irritation of the stomach contents, by structural lesion at or near the pylorus, or even by nervous disorder. Spasm occurred both with or without permanent hypertrophic or hyperplastic thickening of muscular or fibrous tissue. Such a permanent thickening was also no necessary accompaniment of pyloric narrowing. The determination of the presence or absence of free hydrochloric acid by chemical examination of the gastric contents should never be omitted. Summing up, Dr. Russell said that a diagnosis of simple stenosis was determined by the existence of pyloric difficulty, the character and duration of the history, the absence of permanent pyloric thickening, and the presence of free hydrochloric acid. When there was permanent thickening the benign causes were congenital hypertrophic stenosis and cicatrix from healed ulcers. The treatment ought to be on the lines of (1) controlling excessive secretions; (2) reducing pyloric irritability; and (3) increasing the muscular activity of the stomach wall. When these failed the surgeon could generally afford relief and cure.—Mr. CAIRD said that the question was, Were the cases narrated really cases of congenital pyloric stenosis? The diagnosis could only be made from the symptoms. The separation of cases of pyloric stenosis due to other causes from the congenital condition was not easy and most of the cases had periods of from two to six years during which there were no symptoms.—Dr. A. E. MAYLARD (Glasgow) believed that the only real diagnosis lay in the digital exploration of the pyloric orifice. He had met with 12 cases and the symptoms in these were most diverse. A few cases were operated on because they seemed to be those of gastric ulcers. He found the orifice narrowed to 2–3 millimetres, as contrasted with the normal size 12–15 millimetres. The symptoms would depend not only on the size of the stenotic opening but also on the condition of the muscular walls of the stomach. As regarded treatment, it was formerly said that gastro-jejunostomy was the only proper treatment. Within the last four years this opinion had changed. In the old operation the fistula closed and after four or five years the patient's condition was as bad as formerly because the normal condition was the tendency of the stomach to force food through the pylorus. The proper treatment was to enlarge the pyloric opening by pyloroplasty.—Dr. JOHN THOMSON expressed doubt as to whether the cases narrated were really congenital in origin. He had seen no evidence of this disease apart from the hypertrophic stenosis, and this was very often observed.—Mr. CATHCART, Dr. J. HAIG FERGUSON, Dr. A. D. WEBSTER, and the PRESIDENT also took part in the discussion.

Dr. DAWSON F. D. TURNER read a paper and gave a demonstration on the Treatment of Aneurysm by Electrolysis. He said that it had been hoped that the clotting which occurred around the poles might have served as a nucleus for further coagulation and deposits of fibrin and that the aneurysm cavity might in this way have become partially filled up. Such attempts, however, had not hitherto met with much success. His present investigation was made in order to determine by experiments on blood serum outside the body what the actual effects of electrolysis were so far as regarded clotting. Surgeons had made use of various means of electrolysing the blood in aneurysms. Ciniselli had introduced needles connected with both poles and reversed the direction of the current every five minutes, but of 38 cases so treated only seven were ameliorated. In the unipolar method one needle was alone introduced into the aneurysm, but the difficult question to decide was which pole ought to be introduced? The positive pole gave the firmest clot but it was thought that it might be difficult to withdraw and that hæmorrhage or even rupture of the vessel might follow. The negative pole gave a large frothy clot made up of hydrogen bubbles and was not only of little value in setting up a stable coagulation, but was dangerous from the emboli. Dr. John Duncan had used the bipolar method but later gently cauterised the inner wall of the sac with the positive electrode, being of the opinion that the coagulating effect of electrolysis was slight, while the slight injury to the sac wall induced coagulation. A more recent method of treatment is the Moore-Corradi one, and consisted essentially in introducing into the aneurysm several feet of wire and the passage of a current through the wire into the blood, the other electrode being placed on an indifferent spot. The wire was always made the positive pole and might be of silver, gold, platinum, or iron. Some authors used steel needles as the chloride of iron formed assisted coagulation. Professor Leduc stated that zinc was the best coagulant and very superior to platinum. Dr. Dawson Turner had repeated his experiments on an extended scale, the results being as follows:—

—	Anode.	Cathode.
Platinum electrode.	Bubbles of gas which rise *en masse*.	Much gas.
Silver ,,	,, ,, ,,	,,
Nickel ,,	Fair amount of gaseous bubbles.	,,
Iron ,,	Very few bubbles of gas.	,,
Lead ,,	A precipitate which formed a skin; a few bubbles.	,,
Copper ,,	Green precipitate; a few bubbles.	,,
Zinc ,	Firm glove-like precipitate which held on to the electrode; no gas at all.	,,

The negative poles all gave off gas freely but caused no precipitation, and the positive poles of platinum, silver, and nickel gave off gas but caused no real precipitation. The firmest precipitate on the positive pole was that induced by zinc. Surgeons who had used silver or platinum as the active pole had been courting the very danger of gas bubbles which they were endeavouring to avoid. An iron electrode was no better in inducing coagulation, as the proto-salts of this metal were not active in inducing coagulation. The zinc electrode was to be preferred because if its salts were absorbed they were least toxic and it caused the formation of the largest and firmest precipitate, and that without the evolution of gas. In an experiment using zinc electrodes the current strength was maintained at 300 milliampères for ten minutes (equivalent to 50 milliampères for one hour), which was the usual dose given by the Moore-Corradi method. During this time the zinc electrodes lost five centigrammes in weight and a precipitate weighing 5·35 grammes was formed. The latter consisted of albuminate of zinc. By using a coil of zinc wire a firm precipitate binding together the wire spirals was formed. It was difficult to say whether such a precipitate in an aneurysm would through the deposition of fibrin upon it lead to the coagulation of the blood and to subsequent organisation of the clot or whether it would be gradually washed away by the blood stream or split up by hydrolysis into bodies of smaller molecular weight. Dr. Dawson Turner suggested that surgeons should introduce zinc wire into the aneurysm which they might wish to treat electrolytically rather than the wire recommended by Stewart or others because his experiments had convinced him that the passage of an electric current through an aneurysm in the orthodox Stewart-Moore-Corradi method in no way aided in bringing about coagulation of the blood; whatever coagulation was produced was due only to the introduction of the foreign body.—Mr. CAIRD, Dr. ALEXANDER GOODALL, and Dr. R. A. LUNDIE took part in the discussion.

Dr. J. S. FRASER contributed a paper on Chronic Inflammatory Œdema of the Submucous Tissue of the Nose. He first referred shortly to the structure and functions of the nose, especially to the capacity of the inferior turbinals to alter the size of the nasal chambers to suit the air entering the nostrils, and then to the method of carrying out the present investigation which included the examination of 70 specimens of the middle and inferior turbinal bodies in normal conditions as well as in states of slight and marked œdematous infiltration. The tissues were hardened and decalcified in 5 to 10 per cent. nitric acid in spirit. The structure of the middle and inferior turbinals was illustrated by lantern slides—the ciliated mucous membrane and basement membrane, the mucous glands and ducts, the normal small cell infiltration of the surface layers, the system of blood sinuses forming the erectile tissue, the vascular supply, periosteum, and bone with its pseudo marrow spaces. The development of early œdema was next shown. This occurred at first just under the basement

membrane pushing the glands slightly inwards towards the bony centre of the turbinal; in the middle turbinal, owing to its higher position in the nose, the result was a pendulous bag of œdematous submucous tissue which was the first stage of nasal polypus formation; later, owing to the action of gravity and the to-and-fro movement of the air currents in the nose the swelling took on the polypoid form, but Dr. Fraser was of opinion that the majority of nasal polypi were sessile and not pedunculated. In the inferior turbinal the conditions were somewhat different, as this structure was denser and situated nearer to the floor of the nasal cavity; here the progress of the œdema resulted in a scolloped or cauliflower surface in addition to a great increase in the bulk of the turbinal body. It was pointed out that the indentations on the surface were due to the ducts of the glands tying down the mucous membrane at certain spots. The frequency of the coexistence of nasal polypi with œdema of the inferior turbinal was next referred to. The cause of the condition in both turbinals was stated to be severe or recurrent attacks of nasal catarrh producing changes in the walls of the blood-vessels and lymphatic obstruction in the later stages. In regard to treatment, general hygienic measures, nasal washes, and menthol inhalations were advocated in the early stages, and the importance of efficient blowing of the nose was pointed out. Change of air was also recommended. In advanced cases the œdematous tissues must be removed with the scissors and snare; in many cases this involved the removal of a certain amount of bone which was not in itself diseased but had to be resected in order to get beyond the area of œdematous infiltration. In regard to nasal polypi, accessory sinus suppuration was present in about 50 per cent. of cases. The diagnosis could often be made from the character of the discharge present—i.e., when the secretion was watery sinus suppuration was not present, when it was muco-purulent sinus suppuration might or might not be present, and when it was purulent there was sinus suppuration probably involving the ethmoidal cells. The polypi would then recur until the sinus condition had been efficiently dealt with.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Exhibition of Specimens.—Obstetrical Report of the Rotunda Hospital for 1907-08.—Gynæcological Report of the Rotunda Hospital for 1905-07.

A MEETING of this section was held on May 29th, Sir A. V. MACAN, and subsequently Mr. E. H. TWEEDY, the President, being in the chair.

Dr. M. J. GIBSON exhibited two Uteri removed for Adeno-carcinoma of the Body. In describing them he laid stress upon the importance of curettage for early diagnosis.—The specimens were discussed by Dr. A. N. HOLMES and Sir A. V. MACAN.

Mr. A. J. HORNE exhibited two specimens of Dermoid Tumours which had occurred in one patient. After describing the clinical aspect of the case he said that at the operation he found the tumour in front completely covered by the omentum, which passed over it and was adherent to the bladder. He then came on a slight pedicle and in trying to keep close to the tumour some of the contents, typical yellow fluid, escaped. He removed the tumour in front and shelled out the second from behind the uterus.—Dr. R. J. ROWLETTE asked whether Mr. Horne had established any connexion between the second tumour and the ovary.—Mr. HORNE, in reply, said the second tumour lay altogether behind the peritoneum and he could find no trace of the ovary. The case had run a most satisfactory course.

Sir A. V. MACAN exhibited a specimen of Ectopic Gestation with an Ovarian cyst. The patient came to him in July last, when he found a tender tumour behind the uterus slightly to the left side. In November he enucleated a small fibroid that had been undergoing calcareous degeneration, and he removed the left ovary which was degenerated. She made a good recovery and went home in December apparently quite well. About the middle of May she came to him again, miserably thin and pale. She had been in bed for a month and had had a red discharge for three weeks as well as severe abdominal pains. He examined her and found the uterus dislocated to the left and a large elastic swelling filling the right side of the pelvis. The whole abdomen was very tender. He could make no other diagnosis than that of extra-uterine fœtation. He operated and found considerable adhesions. There was hardly any blood in the peritoneum. He enucleated a large lump in the right side of the pelvis which he thought was part of the fœtation. Careful examination showed a rupture in the tube.—Dr. G. FITZGIBBON said the specimen was particularly interesting as showing the rapidity with which the ovary could grow and the possibility of growth at that rate being malignant.

Mr. J. W. BELL read the Obstetrical Report of the Master of the Rotunda Hospital for 1907-08.—Mr. HORNE and Dr. GIBSON congratulated the Master of the Rotunda Hospital and his assistants on the large amount of work done and the good results obtained. The latter said that Mr. Bell had drawn special attention to the fact that one woman, for whom pubiotomy was necessary on a former labour, had now delivered herself spontaneously. This was, of course, one of the greatest advantages of pubiotomy, that they could give the patient every opportunity of delivering herself and only perform the operation when it was indicated.—Dr. FITZGIBBON said that in a recently reported necropsy the results of a previous pubiotomy were examined and the bone showed no attempt at osseous union, which might explain some cases of easy delivery after pubiotomy, as the fibrous union gave greater space.—Sir A. V. MACAN said that he was convinced of the ease and simplicity of pubiotomy but it had been shown that serious accidents might occur in the hands of the most skilled men and, therefore, he could not consider the operation one to put before a man in ordinary country practice as the most suitable and certain. At the same time it was better to perform the operation in an emergency than to let the woman die without any attempt to save her. He thought that cases of convulsions should not be allowed to go on where the sight was already affected; everything, even Cæsarean section, should be done. He thought that the case of death from shock immediately after the removal of adherent placenta was worthy of more detail, as the operation was the most dangerous one in midwifery.

Dr. A. N. HOLMES read the Gynæcological Report of the Rotunda Hospital for 1905-07 for the Master of the Rotunda. The report covers two years, beginning Nov. 1st, 1905, and ending Oct. 31st, 1907, and deals only with those cases in which operative measures were undertaken. In many instances several operations were necessary and were performed at the same time. The number of patients admitted to the hospital during the two years amounted to 981. The total number of operations performed came to 1153, of which 468 came under the heading of curettage. Operative measures for rectifying backward displacements of the uterus were undertaken in 94 cases. The Alexander-Adams method was elected on 5 occasions, vaginal fixation on 23, and ventro suspension on the remaining 66. Myomectomy was performed whenever possible and was adopted on 14 occasions. Hysterectomy was necessary once for overcoming the symptoms associated with an irreducible retroverted gravid uterus. Hysterectomy was performed in all 67 times, malignancy being the indication in 20. The mortality following upon extirpation of the uterus for malignancy was represented by seven, a percentage of 35. Fibroid condition of the uterus accounted for 37 of the other cases; pyosalpinx, intraligamentous cysts, and severe hæmorrhage for the remainder. 40 ovariotomies were recorded with a mortality of five, in two of which malignancy was the indication for operation, and probably in a third case, the pathological findings not being definite. The two other cases were in a hopeless condition of sepsis on admission. Many operations in minor gynæcology were performed for repair of torn perineum, cervix, &c. The total mortality was represented by 21, the causes of death being stated in detail.—Mr. G. R. SEYMOUR STRITCH, adverting to the question of mortality, said that there had not been a death in the Lock Hospital of any sort following confinement during the last 28 years and only one death occurred in the London Lock Hospital, he was informed, in 25 years.—Mr. J. S. ASHE said that shortening the round ligaments, in his experience, had been most unsatisfactory, and he would like to know whether anything had afterwards been heard about the cases operated on.—Dr. T. P. C. KIRKPATRICK suggested the inclusion of a statistical table in connexion with the administration of anæsthetics as a matter of considerable importance which would make a valuable addition to both reports.—Mr. BELL said that the measurements of the true conjugate of the patient who had delivered herself after

pubiotomy were seven centimetres last year and eight centimetres this year. No one who had had much practice with Skutsch's pelvimeter would believe that such a discrepancy could be possible, and the fact remained that the woman delivered herself this year in six hours. Last year she was in labour 42½ hours, with the head ballotting freely above the pelvic brim, when forceps were applied. They failed to fix the head in the brim. Three hours later pubiotomy was performed. Walcher's position was tried for one and a half hours without success before pubiotomy was performed.—The PRESIDENT discussed the method of ascertaining morbidity which had been adopted at the Rotunda as compared with the report of Queen Charlotte's Hospital, and the suggestion of the British Medical Association, which he considered worthy of much wider an adoption than it had yet received. Two women on whom he performed pubiotomy last year had since delivered themselves naturally. Those cases had been carefully measured by Skutsch's pelvimeter, had had the head ballotting above the brim of the pelvis for several hours before operative interference was adopted, and had shown marked pelvic contractions, measurements of which would be seen by referring to the report. One of these showed a marked increase in the pelvic measurements when examined before the birth of the second child. In conclusion, he expressed his admiration of the way in which the work of the reports had been done by Mr. Bell and Dr. Holmes. The former had omitted the reading of the paragraph referring to himself and Dr. Holmes, an omission which the President supplied.

Reviews and Notices of Books.

Hermaphroditismus beim Menschen. (Hermaphrodism in Human Beings.) Von FRANZ VON NEUGEBAUER, Vorstand der Gynaekologischen Abteilung. Leipsic: Werner Klinkhardt. 1908. Pp. 748. Price 40 marks, or 43 marks bound.

THE question of the possibility of the coexistence of sexual organs belonging to both sexes is of great importance. In most plants and in many of the lower animals it is normal for male and female organs to be present in the same individual, but in the vertebrates it is almost universally the rule that the sexes are distinct, and in this respect man resembles the rest of the vertebrates. In human beings it is, however, not at all rare to meet with individuals in whom it is more or less difficult to determine the sex. At one time many of these were thought to be truly hermaphrodite but later it was recognised that the resemblance in most cases was merely superficial. It was then often thought that no such condition as true hermaphrodism could exist. The subject deserved careful study and the large volume before us testifies to the immense amount of research which Dr. von Neugebauer has undertaken.

After a brief historical sketch the author gives a full account of the development of the genital organs, and he shows that at one period of fœtal life there is an undifferentiated stage, from which may develop either male or female organs. This part is well illustrated and the development is made very clear.

The classification of hermaphrodism which Dr. von Neugebauer puts forward is as follows. He divides hermaphrodism in human beings and in other mammalia into true hermaphrodism and false hermaphrodism; the false form he divides into the male and female forms, either of which variety of false hermaphrodism may be external, or internal only, or complete. He points out that of true hermaphrodism only five certain cases have been described. He shows that nearly all cases of so-called hermaphrodism are really cases where the external genital organs of one sex resemble more or less the organs of the other sex. If in a male the penis is only slightly developed and hypospadias is present, the scrotum being cleft, there is a very close resemblance to the genital organs of a woman. Much less commonly the female genital organs may resemble those of a male. Occasionally there occur cases in which the sex is indeterminable, sometimes even on dissection, and it has been proposed by Virchow to class these as belonging to a neuter sex. This may do very well for a decision as to the sex at a necropsy, but when the question arises as to the sex of a living person a decision has to be come to, for the child will have to be brought up either as a boy or a girl; in such a case as this attention must be paid to secondary sexual characters, and Dr. von Neugebauer devotes a chapter to the consideration of this subject. Usually there is little difficulty in determining the sex in doubtful cases. The subject is of great practical importance and mistakes are not rarely made; male children have been educated as girls and the discovery of the true sex has only been made later. It is probable that in some cases the discovery has not been made at all. It is important that if any abnormality appears to be present in the genitalia of children a careful examination should be made and some special study of the subject is often needed to enable the formation of a definite opinion.

The literature of the subject is very great; in 1905 a list of more than 2000 papers and books was collected. The second part of the work contains notes of many cases and treatises arranged alphabetically according to the names of the authors. This should form a storehouse of information for any future investigator; it occupies 550 pages and contains more than 1800 references to articles on hermaphrodism.

Technique Oto-Rhino-Laryngologique, Séméiotique et Thérapeutique, à l'Usage de l'Etudiant et du Médecin Praticien. (Oto-Rhino-Laryngological Technique, Semeiotics and Therapeutics, for the Use of the Student and Practitioner.) By E. ESCAT. 8vo, 322 figures. Paris: A. Maloine. 1908. Pp. xix.–596. Price 8 francs.

Dr. Escat, whose work on the pharynx was so well received, comes before us consequently with an established reputation, and this work on oto-rhino-laryngological technique will in no way detract from it. In the semeiology of the nasal fossa is found a description of an endo-rhinoscope with illustrations of the conditions seen in the nose by means of this instrument and also in the naso-pharynx. It should be an extremely valuable aid to diagnosis and one which it would be well for English students of rhinology to investigate. In catheterising the sphenoidal sinus the author uses a catheter of his own, having at a short distance from the distal extremity a portion bent downwards at an angle of about 15°, the extra-nasal portion of the catheter being bent at an angle of about 135°. This is passed along the floor of the nose until it strikes the naso-pharynx. The handle is then depressed until the short distal portion comes in contact with the floor of the sinus externally. It is then brought forwards and gently passed upwards until it engages in the orifice. Indirect examination of the larynx, with the various methods of dealing with the epiglottis, are very clearly described, and the illustrations, as is common throughout the book, are largely diagrammatic and exceptionally clear. Bronchoscopy and œsophagoscopy are also very lucidly described. The testing of the ear is remarkably fully described; all the various reactions with tuning forks and voice and the electrical reactions are very clearly enumerated.

The second half of Dr. Escat's book is devoted to therapeutic measures, and here we find many useful recipes and prescriptions. Chapter XIX. is one of considerable interest and the subject has rarely been considered in books of this description, that is to say, balneology as applied to diseases of the nose, throat, and ear. The latter part of the book is devoted to surgical technique and leaves little to be desired, though

there is a tendency to too great condensation. On page 468 we find a description of a very useful pair of forceps for removing the lingual tonsil. There is one point in which we are not at one with Dr. Escat, and that is the method which he recommends for trephining the labyrinth, namely, with an Archimedian drill and a small burr, as we believe that it is better to employ the chisel or gouge.

This is an extremely useful little book and is very clearly written.

An Introduction to Dermatology. By NORMAN WALKER, M.D. Edin., F.R.C.P. Edin., Physician for Diseases of the Skin, the Royal Infirmary, Edinburgh. Fourth edition. With 28 coloured plates and 69 illustrations. Edinburgh and London: William Green and Sons. 1908. Pp. 332. Price 9*s.* 6*d.* net.

IT is in the nature of books to grow, and the more successful a book is the more it grows as a rule, chiefly perhaps because of its many editions. Dr. Walker's book has proved no exception and it is now apparently twice as large as on its first appearance, and we cannot but fear that though the book may gain in dignity by the increase in size it may lose to some extent its popularity, for it fulfils the need existing for a moderately small book on dermatology. Students are only too ready to be frightened away from the study of this special department by the idea that it is too complex to be understood by the average student, and nothing is more likely to foster this idea than the size of the text-books devoted to dermatology. The book is good and the new coloured illustrations enhance its value. We reviewed the work so thoroughly on its first appearance in 1899 that a detailed notice is not required; however, a few criticisms suggest themselves. We agree with the author that most of the substances causing urticaria certainly act as toxins on the skin, probably as they are being excreted, and that they do not cause the disease merely by reflex irritation, as is still often taught. Dr. Walker, however, still refers the urticaria caused by intestinal worms to reflex irritation. We are, however, much inclined to think that these too give rise to the disease by the excretion of toxins; there is much to support this idea. In his account of dermatitis venenata the author does not refer to the cases in which the irritant is animal in origin—for instance, a fur boa; in most of these cases it is true that the condition is an urticaria but often it is a true dermatitis. With regard to herpes genitalis, the evidence is accumulating that it is really venereal in origin, being probably due to a specific infection. We hope that this edition will be as successful as its predecessors.

Die Krankheiten der Nase und Mundhöhle sowie des Rachens und des Kehlkopfes: Ein Lehrbuch für Praktische Aerzte und Studierende. (Diseases of the Nose and Oral Cavity, as well as those of the Naso-pharynx and Larynx: A Text-book for Qualified Physicians and Students.) By Dr. ALFRED BRÜCK, Berlin. Berlin and Vienna: Urban and Schwartzenberg. 1907. Pp. 467, 217 illustrations.

THIS book has been carefully compiled with a view to place before those for whom it is written the diseases of the parts under consideration in such a way that they may derive the utmost benefit from its study. Dr. Brück quite rightly has omitted the pathology and anatomy, or has so curtailed them as not to make the book unduly long. In the first part the anatomy and physiology of the nasal cavities, and the methods of examination of the nose and throat, are sufficiently clearly described and illustrated. The examination of the nose may be taken as an example of the careful detail which is given. In this examination the external condition of the nose, anterior rhinoscopy, estimation of the air currents and force, fœtor, median rhinoscopy, testing of the sense of smell, posterior rhinoscopy, and trans-illumination are considered. Examination of any organs or parts which might be influenced by, or might influence, nasal conditions, the eye, the ear, the upper air-ways, the teeth, the brain, the stomach, and reflexly diseased organs is also included.

Like a good many of the modern text-books therapy and operative procedures are briefly considered before dealing with the parts. When we come to diseases of the nose many conditions which are entirely omitted in most books, but which are of very great importance and interest, are discussed, such as eczema, sycosis, and furunculosis of the vestibule. Sycosis of the vestibule, a most intractable disease, is one which is rarely alluded to in works of this description and its inclusion is much to be commended.

The part on other minor ailments, under the heading of Circulatory Disturbances of the Skin, is of much value, not only to the specialist but also to the general practitioner. The various diseases of the mucous membrane of the nose are dealt with extremely fully, and the illustration showing the application of the snare to a mucous polypus is quite one of the best which have yet appeared in any text-book with which we are acquainted. The chapter on Diseases of the Accessory Sinuses is full and lucid.

The second part consists of Diseases of the Oral Cavity. Though short, it is clear and concise and is nicely illustrated.

Part III. is devoted to the Naso-pharynx and is on a par with the rest of the work. The diagram demonstrating the removal of adenoid vegetations is very clever, though Dr. Brück still advocates partial removal of the tonsil instead of its complete excision. The chapter on Diseases of the Larynx and Trachea leaves very little to be desired. In this work Dr. Brück has carried out most excellently the task which he set himself and we are convinced that those who read his book will derive great benefit from it.

Makers of Modern Medicine. By JAMES J. WALSH, M.D., Ph.D., LL.D., Acting Dean and Professor of the History of Medicine and of Nervous Diseases, Fordham Medical School, &c. New York: Fordham University Press. 1907. Pp. 362. Price $2 00 net.

AMID the hurry and rush of working for examinations which constitutes the whole duty of a medical student under the present system of so-called "medical education," there is no time for such works of supererogation as the study of medical history. Probably a considerable percentage of newly qualified men have never so much as heard the name of Auenbrugger and, if they might possibly associate the name of Laennec with a stethoscope, would be puzzled to give any account of his contributions to medical science or even to fix the century in which he lived. Professor Walsh has done well to publish in collected form his accounts of some of the most notable masters of medicine, thus rendering it easy for those who have the inclination to appreciate what we of the present day owe to our illustrious predecessors who by their discoveries rendered possible the advances in knowledge which have since taken place. In an introductory chapter the author points out some of the lessons which he would extract from his consideration of the lives of these worthies. He endorses Professor Osler's dictum that the world's best work is done by young men, stating that "There is practically not a single great discovery in medicine that was not made by a young man under 35." Then, too, the giants of thought and observation have arisen in countries far apart, and though many of them founded schools to carry on their work, none left his mantle to a successor who could in any way compare with his teacher. A curious similarity is seen in the reception accorded by the world to the discoveries announced by each of the pioneers whose lives are here recorded; opposition or mere neglect is the portion of those who would impart new ideas to their fellow men. Not only perseverance but indifference to attack seems the needful equipment of the discoverer. Professor Walsh also notes that many of these leaders of medical thought showed

their versatility by their achievements in other fields; thus Auenbrugger wrote a successful musical comedy and Claude Bernard a play of some merit. Finally, scientific eminence was not a bar to religious earnestness, as is shown by the lives of many of these great men.

The names selected for biographical notice are Morgagni, the father of pathology; Auenbrugger, inventor of percussion; Jenner, discoverer of vaccination; Galvani, discoverer of "animal electricity"; Laennec, father of physical diagnosis; Graves, Stokes, and Corrigan, the ornaments of the Irish school; Müller, the father of German medicine; Schwann, the founder of the cell doctrine; Claude Bernard; Pasteur; and O'Dwyer, the inventor of intubation. The list is well chosen, though we may feel a doubt as to whether future generations will place the last-named among the immortals of the first rank. Presumably death was a necessary condition of canonisation, otherwise we might have expected Lord Lister to be included in the select band. We are not, however, inclined to cavil at the author's choice but rather to express gratitude for so convenient and agreeable a collection of biographies, for which we might otherwise have needed to search through many scattered books. The sketches are pleasantly written, interesting, if not very profound, and well adapted to convey to thoughtful members of our profession just the amount of historical knowledge that they would wish to obtain. We hope that the book will find many readers.

Stereoskopbilder zur Lehre von den Hernien. (*Stereoscopic Atlas of Herniæ.*) By Professor E. ENDERLEN of Basle and Professor E. GASSER of Marburg. Jena: Gustav Fischer. Pp. 76. Price 28 marks net.

THIS work, the outcome of a series of joint lectures on surgical anatomy given by the authors in the University of Marburg, surpasses anything of its kind which we have yet seen. It consists of an album containing 72 stereoscopic photographs, all of which are numbered and removeable, thus greatly enhancing their value for class purposes. A short description of the different varieties of herniæ is given at the commencement of each section and particular attention is drawn to facts of clinical as well as of anatomical importance. In addition, a description of each photograph with a lettered outline diagram is given on the opposite page, but the excellence of the photographs is such that the explanatory diagram is really only required in a few instances. In each section stereoscopic representations of the normal hernial regions precede those of the herniæ themselves and in the majority of instances the arteries, veins, nerves, and muscles are depicted in the conventional "anatomical" colours, thus obviating all possibility of misinterpretation.

In the introductory chapter, after acknowledging the loan of specimens and dissections belonging to Professor Strahl of Giessen and Professor Aschoff of Marburg, the authors modestly explain that the atlas is not intended to be an exhaustive treatise on herniæ but simply to illustrate the well-known varieties and, whenever possible, in an early stage. Then follows Section II., containing six beautiful photographs illustrating the descent of the testicle which are both striking and instructive.

The next section deals with the topography of the inguinal region and is followed by numerous photographs of oblique and direct inguinal herniæ. The relations of the deep epigastric artery to the neck of the sac is so clearly depicted in plates Nos. 15, 16, 20, and 21 as to render them of the greatest value to both teacher and student.

Sections VI. and VII., devoted to femoral hernia, contain several valuable illustrations which adequately depict the important anatomical relations of the sac. After illustrating obturator, lumbar, and gluteal herniæ four excellent photographs of multiple herniæ are given. These are all taken from within and show the relations of the apertures to surrounding structures in a most striking manner. Photographs of diaphragmatic herniæ, peritoneal recesses, and intra-peritoneal herniæ bring this truly beautiful work to a fitting conclusion.

The book should be of the greatest value to the teacher of practical surgery, for with its aid he could explain many of the difficulties which beset the student and at the same time show him a stereoscopic and therefore realistic portrait of the actual dissection.

LIBRARY TABLE.

Uterine Fibroids and other Pelvic Tumours. By BEDFORD FENWICK, M.D. London: E. H. Blakeley. Pp. 75. Price 3*s.* 6*d.*—This little book is a collection of papers published during the last 20 years in London medical journals. The first chapter is concerned with uterine fibroids, of which the author discusses the pathology, symptoms, and treatment. He draws attention to the changes so often met with in the vessels of the uterine wall in association with these tumours and concludes that fibroid tumours are due to some vascular obstruction, perhaps some small embolus in a minute branch of the uterine or ovarian artery, causing hardening and shrinking of the area around, and the gradual involvement of the muscle surrounding the indurated spot. Dr. Fenwick lays stress on the importance of rest and free purgation in the treatment of the hæmorrhage arising from these tumours and considers the details of their medicinal treatment. In the next section he discusses the interesting question of pregnancy complicated by fibroid tumours and points out how often, in his opinion, it is necessary to operate in such cases. He appears to us to take the view of the gynæcologist rather than that of the obstetrician and to pay too little heed to the saving of the life of the child—a factor in the treatment of these difficult cases which must be taken always most carefully into account in coming to a decision. After a review of the various theories as to the causation Dr. Fenwick comes to the conclusion that "ovarian cystoma is caused in many cases by an inherited tendency on the part of the patient to degenerative changes," and that "this inherited tendency is due to a family predisposition to pulmonary phthisis, while gestation and severe falls and strains are to be regarded as powerful exciting causes of the disease." The assumption that these cysts originate in a degeneration of one or more Graafian follicles no longer holds true in view of the researches of Walthard and others, and we doubt if many gynæcologists will accept as proved the author's conclusions. A very interesting section is that in which attention is called to the effect which large intra-abdominal tumours have in causing cardiac degeneration. This is too often overlooked by surgeons and the greatly increased risk which patients incur from this complication is hardly given sufficient weight. The last chapter gives the details of four years' work by the author at the Hospital for Women, Soho-square, in abdominal surgery. Dr. Fenwick's results are remarkably good and it is interesting to note that, like most other surgeons, he has given up washing out the abdominal cavity and drainage.

The Skin Affections of Childhood, with Special Reference to those of More Common Occurrence and their Diagnosis and Treatment. By H. G. ADAMSON, M.D. Lond., M.R.C.P. Lond., Physician for Diseases of the Skin, Paddington Green Children's Hospital; Physician in charge of the Skin Department (formerly Physician) North-Eastern Hospital for Children; Assistant in the Skin Department, Westminster Hospital. (Oxford Medical Manuals.) London: Henry Frowde, and Hodder and Stoughton. 1907. Pp. 287. Price 5*s.* net.—There are many affections of the skin which are almost confined to early life and others which

are much more prevalent during childhood than in later years. It is therefore reasonable that a special manual should be written dealing only with these conditions. Dr. Adamson has fulfilled his task very creditably and this book can be recommended to those who wish to become acquainted with the skin affections of childhood. It is very fairly provided with illustrations but unfortunately they are only in black and white and therefore they are not so informative as if they had been in colours. A brief but useful formulary is given.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

(1) TABLOID PHENOL MENTHOL COMPOUND; AND (2) HEMISINE.

(MESSRS. BURROUGHS, WELLCOME AND CO., SNOW HILL BUILDINGS, LONDON, E.C.)

1. Menthol and phenol afford a combination of value when the administration of a gastric stimulant and antiseptic is indicated. They relieve pain in dyspepsia and prevent or arrest fermentation. Further, the antiseptic and soothing effect is also carried into the intestinal tract. The tabloid is preserved from the action of the atmosphere by a gelatin envelope. Each contains three-quarters of a grain of phenol, half a grain of menthol, and one minim of the oil of cajuput. 2. Hemisine is a permanent solution of the crystalline active principle of the suprarenal gland, its strength being 1 in 1000. With the hemisine (contained in an amber-coloured bottle) is supplied a tube of soloids of sodium chloride for preparing normal saline solution.

CORYFIN.

(THE BAYER CO., LIMITED, 19, ST. DUNSTAN'S-HILL, LONDON, E.C.)

Coryfin is described as the ethyl-glycollic ester of menthol. The sample which we examined proved to be a slightly yellowish oily fluid which dissolved readily in oils, alcohol, ether, and chloroform, but not in water. It has a slight odour suggesting menthol. On heating with alcoholic potash the ester is saponified and menthol is liberated from the compound. Coryfin is suggested as an advance on menthol for its analgesic and sedative effects in the treatment of neuralgia, headache, and respiratory affections. It has the distinct advantage that its effect is more prolonged than is that of menthol. Its prolonged action, in fact, is due to the gradual disengagement of menthol. Besides its application for the relief of headache or nasal catarrh coryfin may be used as a gargle or as an inhalation in affections of the upper respiratory tract. It serves also as a carminative taken internally.

PARA-LYSOL TABLETS.

(CHARLES ZIMMERMANN AND CO., 9 AND 10, ST. MARY-AT-HILL, LONDON, E.C.)

The marked antiseptic and disinfectant properties of lysol fluid have naturally suggested a preparation of this compound in a solid form. Success has followed the suggestion and the result is para-lysol. In this form lysol is very convenient, for the tablets can be carried easily in the pocket and may readily be dissolved in warm water to make a solution of given strength as occasion requires.

TAWNY PORT (SAWORD'S).

(F. G. SAWORD AND CO., 43 TO 45, GT. TOWER-STREET, LONDON, E.C.)

We quite accept the statement that this is a genuine Alto Douro wine replenished with genuine wine brandy and therefore well suited for invalid purposes. At least, its fine fruity flavour supports this view and the results of analysis conform with those yielded by a genuine tawny port. The wine is thoroughly matured in wood, so that the tawny character is developed. Our analysis gave the following results: alcohol by volume, 21·19 per cent.; extractives 10·92 per cent.; mineral matter, 0·29 per cent.; sugar, 8·92 per cent.; tartaric acid, 0·375 per cent.; and volatile acid calculated as acetic acid, 0·06 per cent. The smallness of the last figure illustrates the sound condition of the wine.

THE PRANA SPARKLOVINE.

(AERATORS, LIMITED, UPPER EDMONTON, LONDON, N.)

The sparklovine apparatus fulfils a very useful purpose in dietetics. It is designed for the aeration of liquids such as milk, wines, or syrups, or, in a word, those liquids which are apt to foam excessively when charged with carbonic acid gas. The sparklet syphon is not applicable in these cases because the liquid when discharged through the syphon tube is practically all froth, and when the froth subsides the liquid is no longer satisfactorily effervescent. The sparklovine apparatus has no syphon tube, the gas entering through a silvered cone at the top, the process of aeration being carried out with the bottle inverted. We have found it to answer admirably for aerating certain still wines. The apparatus will be appreciated, moreover, in the sick room in which it may be desirable to have at hand effervescent liquids—as, for instance, milk, beef-tea, or barley water.

(1) PURIFIED TUBERCULIN TABLETS; (2) ANALGESIC BALM; AND (3) GELATINE-COATED ALOIN AND PHENOL-PHTHALEIN COMPOUND PILL.

(PARKE, DAVIS AND CO., BEAK-STREET, REGENT-STREET, LONDON, W.)

1. The purification of the tuberculin used in these tablets is described. They are designed for the ophthalmic diagnosis of tuberculosis, one tablet dissolved in 15 minims of water yielding a 1 per cent. solution. 2. The analgesic balm contains as ointment base lanoline and as active remedial agents methyl salicylate and menthol. The result is a very useful application for the treatment of painful affections generally; its application appears to be particularly effectual in neuralgia and sciatica. 3. Phenolphthalein is employed in this compound pill to assist the action of the aloin in cases of chronic constipation. The formula is a good one, including aloin ¼ grain, phenolphthalein ½ grain, strychnine 1 80th grain, belladonna extract 1·12th grain, and powdered ipecacuanha 1·15th grain.

GENUINE HOLLANDS.

(S. H. WITTE AND CO., DUNSTER HOUSE, MINCING-LANE, LONDON, E.C.)

This sample is guaranteed by the Municipality of Schiedam to be genuine Geneva distilled in pot stills. We can offer no objection to this statement, particularly in view of the fact that our analysis disclosed the presence of secondary products of distillation and fermentation in the spirit. The furfural, for example, amounted to 4·20 parts per 100,000 parts of alcohol present, the ethers to 56·00 parts, the aldehydes to 8·00 parts, and the higher alcohols to 210·00 parts. The gin possessed to a marked degree the very peculiar flavour of genuine hollands. We believe it to be a specimen of a genuine Geneva pot-still spirit.

PYROZONE SOLUTION.

(MCKESSON AND ROBBINS. AGENTS: A. C. WOOTTON, 14, RINITY-SQUARE, TOWER-HILL, LONDON, E.C.)

Pyrozone solution is simply a solution of hydrogen dioxide, the amount present being, according to our analysis, just over 3 per cent. of the absolute substance. The solution we found was free from the ordinary impurities of hydrogen peroxide preparations such as barium salts, acids, or preservatives. Another important point in regard to pyrozone is that it maintains its strength apparently indefinitely. Since hydrogen peroxide is the active agent present this quality of permanency of strength is important. The liquid is in fact so permanent that it may be evaporated to one-third of its bulk without any appreciable loss of its oxidising power. Hydrogen peroxide in this pure form is deserving of more attention than it has hitherto received as being a useful

antiseptic externally and internally and as an antifermentative, as a wash, and so forth.

STERILISED MILK (GREEN BUTTERFLY BRAND).

(FUSSELL AND CO., LIMITED, 4, MONUMENT-STREET, LONDON, E.C.)

Points of importance in regard to this milk are the uniformity and permanency in connexion with the distribution of its fat. The separation of fat is always a source of trouble when milk is sterilised by heat. This sample proved to be perfectly homogeneous in regard to its fatty contents and, moreover, the quality of the milk is excellent as will be seen from the following analysis: total solids, 12·40 per cent.; mineral matter, 0·78 per cent.; fat, 4·11 per cent.; and non-fat, 7·51 per cent. The taste was quite good and the contents of the tin were sound on opening and no preservatives were detected.

CYLLIN OBSTETRICAL LUBRICANT.

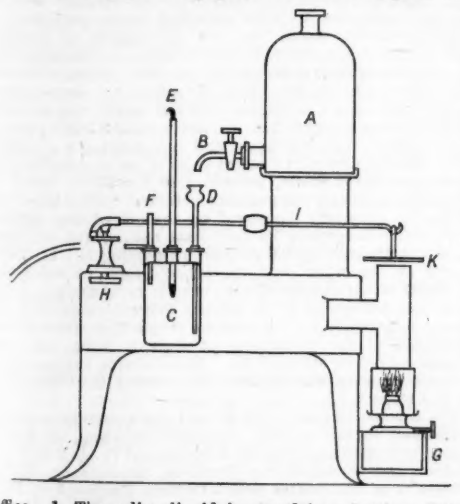
(JEYES SANITARY COMPOUNDS COMPANY, LIMITED, 64, CANNON-STREET, LONDON, E.C.)

This lubricant is prepared to meet the requirements of gynæcological practice. It is a bland, unirritating substance containing the powerful disinfectant cyllin, so that its application is a guarantee that the surfaces with which it comes into contact are rendered sterile. It is, moreover, soluble in water, and whilst an excellent lubricant contains no free greasy matters.

New Inventions.

APPARATUS FOR CONTINUOUS SALINE RECTAL IRRIGATION.

I HAD on several occasions made an attempt at continuous saline rectal irrigation with the apparatus recommended by Mr. B. G. A. Moynihan in THE LANCET of August 17th, 1907, but with very varying success. The delivery of the saline fluid was not constant and frequently much of the liquid syphoned over and was discharged on to the bed, and the disturbance caused to the patient by the changing of the sheets was highly prejudicial. Being convinced of the value of the method, it occurred to me that it should be easy to contrive an apparatus which would give a constant delivery of the fluid at a constant temperature, and the contrivance illustrated in the figure was adopted. A brief description will



suffice. 1. The saline liquid is stored in a bottle A, fitted with a glass stopcock B, through which it is delivered to the apparatus at a constant rate. 2. A Woulff's bottle C, fitted with a funnel D, a thermometer E, and a glass T-piece F, is plunged in a light metal case in which it is almost wholly immersed. At the beginning of the operation this bottle is also filled with saline mixture heated to the required temperature. 3. A current of air, heated by the petroleum lamp G is passed through the metal case to maintain the temperature of the fluid in the Woulff's bottle. 4. The temperature is kept at a constant level by a regulating apparatus consisting of a capsule at H which acts through a lever I on the damper K. When the apparatus is started the stopcock B is adjusted to the required discharge and an equivalent quantity of the liquid overflows at the T-piece F and passes through indiarubber tubing to a Moynihan's rectal tube. The open end of the T-piece admits of the escape of flatus. The rate of flow recommended by Mr. Moynihan is one pint per hour, and in the apparatus used this was proved by experiment to be equal to 90 drops per minute and the tap was accordingly adjusted to this rate. The instrument has been used on a number of cases with marked success. It is easy to run and does not require continuous attention. The constancy of the flow makes it possible for the patient to retain and absorb the fluid and the discomfort of a wet bed is avoided. It does not seem possible to maintain the slow rate of flow necessary with the syphonic action of the apparatus hitherto used. The apparatus was made by Mr. J. R. Sharples, Water-street, Accrington.

Royal Infirmary, Manchester. JAS. B. MACALPINE.

EGYPT AND THE SOUDAN, 1907.

IN his first report on the finances, administration, and condition of Egypt, Sir Eldon Gorst judiciously adheres to the model rendered classical by his great predecessor. His style, too, bears a certain resemblance to Lord Cromer's, but best of all is the striking similarity between the general views of the emancipated pupil and those of his whilom teacher. In his brief exordium Sir Eldon Gorst says that he has no intention of changing the policy of gradual administrative reform which was introduced by Lord Cromer and has received the approval of successive British Governments. His desire in the present report is to take up the thread where Lord Cromer left it and to describe briefly the progress since attained and the principal measures now under the consideration of the Egyptian Government.

In the first place, the new Consul General devotes a comparatively long disquisition to the capitulations. When first introduced this *régime*, as Sir Eldon Gorst calls it, may have been necessary and even beneficial, but under the conditions of life now obtaining it can without exaggeration be styled the curse of Egypt. He mentions six matters of absolutely vital importance in which the baneful influence of the capitulations is plainly manifest. These matters are (1) self-government; (2) spirituous liquors; (3) child labour; (4) house construction; (5) weights and measures; and (6) trade-marks, patents, and copyright. A seventh, every whit as important as any of these if not more so, might have been added—namely, sanitary legislation. There are also many other matters, scarcely less momentous, in which the capitulations block the way. Measures cannot be equitably applied to the Egyptians alone, but before the Europeans who are living among them can be made amenable the unanimous consent of 15 Powers has to be obtained. In a final paragraph Sir Eldon Gorst sums up the situation in the following words:—

> The most important problem for the future is, then, to devise a system which will render all the inhabitants of this country equally subject to the same laws and regulations, and will at the same time provide a practical method of legislating for them. Lord Cromer, in his last report, indicated the general lines on which he considered the problem might be solved, but he laid emphasis upon the fact that his final opinion would largely depend upon the reception accorded to his views by the leading Egyptian and European residents in Egypt. So far, however, there has been no sign of unanimity on this subject on the part of local public opinion, either European or native. If some of the details of Lord Cromer's plan are not acceptable to those most interested, other methods of dealing with the situation must be sought; but whatever scheme may ultimately be adopted, it seems clear that it must embody the main principle underlying Lord Cromer's suggestions and be based upon some local method of legislating for all classes of the population.

In the next two sections of his first chapter Sir Eldon Gorst discusses the Legislative Council and local self-government and shows in the clearest possible manner that the native Egyptian is still incapable of directing his own affairs to advantage. Sir Eldon Gorst has no hesitation in stating that the great majority of the upper and middle classes—that is to say, the people who have a stake in the country—do not wish to see any extension of self-government at the present moment and would be the first to admit that

the country is not ripe for it. "As for the fellaheen," he continues, "who make up the bulk of the population, it would not be possible to make them understand what the idea meant. Until the people have made a great deal more progress in the direction of moral and intellectual development the creation of representative institutions, as understood in England, could only cause more harm than good, and would, as a matter of fact, give a complete set-back to the present policy of administrative reform."

The next chapter is devoted to financial affairs, and with the exception of a section allotted to the census of 1907 does not specially concern medical readers. We may, however, in passing mention Sir Eldon Gorst's satisfactory statement that during the financial crisis through which Egypt has recently passed the position of the fellah was hardly affected, and that he continues to enjoy the relatively high degree of material well-being to which he has become accustomed of late years. From the short section devoted to the late census we learn that the population of Egypt, including about 80 000 nomads, amounts to 11,272,000 an increase of nearly 16 per cent. on the figures of the 1897 census. The enumeration was taken on April 29th and provisional figures for the whole of Egypt were published in May. Before the close of the year statistics are to see the light in which full details will be given regarding age, civil condition, educational attainments, religion, birth-place, occupation, and infirmities.

The drainage of Cairo has so often been declared imminent that each fresh announcement must naturally excite suspicion. This time, however, it really does look as if this urgent undertaking would be carried out in the near future. Sir Eldon Gorst hopes that in about a year's time everything will be ready for placing the works out to contract. The cost of the whole project, including the various accessory works which it will involve, will be about two millions sterling, and in order to meet it the house tax in Cairo is to be raised from 8 to 10 per cent. per annum. The 15 Powers have been asked to agree to this fiscal measure and all save one have signified their consent.

Turning to the chapter headed Public Health, we find that 31,800 in-patients were treated in the Government hospitals during the year, the number in 1906 having been 30,000. Upon this Sir Eldon Gorst observes: "The work of the hospitals throughout the country continues to increase and the number of voluntary entries shows a gradual and satisfactory development. This tendency is also observable in the out-patient department. The total number of out-patients in 1907 was 165,000, as against 128,000 in 1906." In 1888 the number of admissions to the Government hospitals, including the lunatic asylum and a police hospital at Tourah, was 11,581, and except at Kasr-el-Aini there was practically no out-patient department at all. The value of Western medical methods is now largely recognised in Egypt. In the present report Sir Eldon Gorst mentions the recent foundation by private persons of four hospitals for the benefit of all comers, while the "number of attendances" at the travelling eye hospitals which owe their origin to Sir Ernest Cassel was 146,830. In the early days of the occupation 300 beds had to be made to suffice for the lunatics of all Egypt in the asylum at Abbasiyeh. Now the number has been increased to 877 and "it is hoped that accommodation for 300 more lunatics will be available at Khanka in about three years' time."

Hashish is believed by most people to exercise an extremely pernicious effect upon human beings when it is either smoked or eaten as a sweetmeat, and although a few apologists exist who assert that it is infinitely less injurious than alcohol still there can be no reasonable doubt that the habitual use of a preparation which acts so powerfully upon the sensorium will inevitably be attended by the demoralising consequences common to all such indulgences. In Egypt no fewer than three different departments of the Government are intrusted with the repression of the importation and consumption of hashish, but in spite of the efforts of the coastguard, the Customs, and the police a large amount of the drug finds its way into the country and is distributed among its inhabitants, foreign as well as native. During the year 1907 the amount of hashish seized and confiscated was 16,290 kilogrammes, representing a monetary value of about £50,000, while the year before the amount was 15,380 kilogrammes. It is therefore fair to conclude that a trade which is able to support such a serious loss must be very extensive. Formerly the consumption of hashish was believed to be the cause of most of the insanity in Egypt, but apparently it is more intelligently used now or else the mode of preparation has been improved. Whatever the reason may be, it is satisfactory to find that of late years the cases classified as due to the abuse of hashish have been less frequently admittted into the lunatic asylum at Abbasiyeh than they used to be. In the year under report out of a total of 444 male admissions the proportion of hashish patients was only 13·5 per cent.; in 1897 it was 34 per cent.

In his annotation on the lunatic asylum Sir Eldon Gorst remarks that "a certain amount of pellagra has been observed amongst the inmates, but the precise connexion between this disease and lunacy has not yet been determined. As regards its proximate cause, the balance of opinion is in favour of attributing it to the ingestion of diseased maize, but the question cannot yet be said to have emerged from the controversial stage. There is no doubt that the disease exists in certain districts of Egypt, but more complete information is necessary before the question of what, if any, remedial measures are possible can profitably be studied." More information is certainly necessary but it is scarcely to be looked for in a report of this nature. It would have been more satisfactory if Sir Eldon Gorst had been able to announce the imminence of an authoritative investigation of this highly important matter.

That Egypt is the hot-bed of ophthalmia is an unfortunate fact which is very widely known, but few English people, we should imagine, are prepared for the terrible condition of affairs so clearly exposed in the following short extract:—

> By an arrangement with the Ministry of Public Instruction the experiment of inspecting for eye disease the pupils in the Government school at Tantah was undertaken last October. Out of a total of 485 boys only 16 were found to be free from granular ophthalmia or trachoma. This chronic contagious disease is directly or indirectly responsible for a very large proportion of the cases of blindness in the country. 61·4 per cent. of the boys in the school had less than normal vision in one or both eyes.

England being a land of clear vision it may be that the blessing of good eyesight is not sufficiently appreciated. On the other hand, it is certainly true that through familiarity the curse of blindness loses much of its acuteness in a land like Egypt.

After the great cholera epidemic of 1883 had ceased Egypt remained free from the disease for 12 years. In 1895, however, it again made its appearance, and continued to commit ravages with more or less severity until 1902. Since then the country has been kept immune, but owing to the presence of cholera in Southern Russia, Constantinople, and the Hedjaz Sir Eldon Gorst is of opinion that it is still necessary to take stringent precautions and to keep a careful watch on the movements of possibly infected immigrants and pilgrims in order to obviate the risk of the disease again entering Egypt. But although cholera has departed, never, let us hope, to return, the same cannot be said with regard to plague. The last case having occurred in 1844 it was thought that the disease had become extinct, but in 1899 it broke out again and has continued ever since with much virulence. Of recent years it has appeared mostly in Upper Egypt where, according to Sir Eldon Gorst, it commonly assumes the pneumonic form. "This form," he adds, "is especially dangerous on account of the rapidity with which it spreads, its infectious nature, and the high mortality (practically 100 per cent.) attending it. In Lower Egypt, on the other hand, the bubonic form, of which the mortality rarely exceeds 40 per cent., is more common; this form does not appear to be directly communicable from one person to another. ..... Unless the people themselves can be convinced of the advantages of what is being done the disease cannot be stamped out. Considerable progress has, however, already been attained in educating the inhabitants in this respect."

The concluding part of Sir Eldon Gorst's interesting report is devoted to the Soudan. Generally speaking, the public health was satisfactory during the year, but Dr. J. B. Christopherson had to record the deaths of two valuable British officers from blackwater fever—Captain Bengough at Wau and Captain Gunthorpe at Roseires. An increase in the number of cases of enteric fever was also noted, as well as the existence of Malta fever at Kassala; the cause of the latter being "probably goat's milk." 49,722 persons were vaccinated, and 94,051 out-patients and 7266 in-patients were treated at the civil hospitals, the corresponding numbers the previous year having been 78,029 and 7002.

THE LANCET.

LONDON: SATURDAY, JUNE 20, 1908.

Hospital Sunday.

THE annual collection of the Metropolitan Hospital Sunday Fund is held somewhat later than usual this year owing to the incidence of Easter and of the feasts of the Church dependent upon it. This should be of no disadvantage to the Fund, because in the middle of the month of June London is at its fullest, and the depressing influence of a late and chilly spring has given place to the sunshine and genial warmth of summer. We sincerely hope that the ordinary attractions of the season, combined with those presented by an international exhibition of unusual importance, may be found to have brought into our midst a host of visitors who will not forget amid their own pleasures the needs of others whose lot is one of poverty and suffering. We do not grudge any the enjoyment of those amusements upon which money is so freely spent by all classes of the community according to their individual tastes and their different degrees of personal wealth; but we do not shut our eyes to the fact that the sums devoted to pleasure and luxury in the present day are very large and that they tend to increase, and we cannot believe that the excuse of "hard times" can justly be put forward by all those who may be tempted to plead exceptional and temporary poverty in reply to the claims of charity. Our country is at peace with the world, and if the period of tranquillity which has followed the long anxious years of war in South Africa has not proved to be a time of great commercial prosperity the signs of the commencement of better conditions are not wanting, and all must hope to see them reflected in the total received by the Fund from the general public in 1908.

The supply cannot possibly rise to a point in excess of the urgent demand, and even if the present year were to beat the records of those which are past there would still be need for more in the future. The urgency of the need of the hospitals can be shown by a glance at the statistics published last week, as in past years, in our annual supplement issued on behalf of the Fund. This urgency can best be judged by the figures which display the vastness of the work performed. The total amount contributed to the Metropolitan Hospital Sunday Fund last year, including donations, was £78,651. This is a "record" total, a goodly sum indeed, representing the relief during the past year of an amount of suffering not to be estimated in figures. Let us, however, look at it with relation to the work actually done by the hospitals aided by the Fund. The statistics of the general hospitals alone, leaving special hospitals and cottage hospitals out of consideration, show that in these more than 70,000 in-patients were received during 1907. That is to say, the amount raised by the Metropolitan Hospital Sunday Fund would have enabled it to contribute a little more than £1 towards the maintenance of each in-patient in the general hospitals if only these had had to be assisted by it. But during the same period the cottage hospitals and special hospitals between them had more than 70,000 in-patients to provide with beds and food, with professional care and nursing, and even then we have to take into account further what is done for out-patients, and a host of other subjects of hospital expenditure. No, there is no fear that the income of the Metropolitan Hospital Sunday Fund will be in excess of the needs of the noble institutions which it strives to assist.

It must not be forgotten, moreover, that from the sum above referred to, constituting though it does the largest that the Metropolitan Hospital Sunday Fund has had at its command in any one year since its inception, must be deducted "donations" amounting to £35,865, including £30,000 from the estate of Mr. GEORGE HERRING, before we arrive at the contributions of the great general public, the citizens of London, to whom the Fund specially looks for support and for the collection of whose charitable offerings it is peculiarly adapted. It does not fall to the lot of many to be able to give thousands of pounds, or even hundreds, in any one year for a single charitable object, however deserving it may be or however great may be the need for generous help. To those in such fortunate circumstances the Metropolitan Hospital Sunday Fund owes much, and representing as it does order and method in the distribution of charity it is able to assure them of the wise and economical spending of that which in their generosity they may give: but it appeals with equal urgency and with equal claims on the attention to those whose gifts are limited necessarily to pounds, to shillings, or to pence. These may give to the full extent that their means allow, making perhaps an effort in order that their alms shall exceed that which they contribute to the offertory at other times, but at the same time may not desire to display their liberality before their neighbours, or to have their offerings criticised by those who can afford larger sums. To them the collection on Hospital Sunday affords an opportunity to do good, not, indeed, by stealth, but without expecting or desiring to find fame, and to them the self-denial which they impose upon themselves in order that their gifts may be adequate, must rank with

> "That best portion of a good man's life,
> His little, nameless, unremembered acts
> Of kindness and of love."

Such acts of love and kindness bear their fruit unseen so far as the effect of the individual gift is concerned, but if any of those who give to the Metropolitan Hospital Sunday Fund desire to realise what it is that he is assisting let him stand by the gates of one of our great general hospitals on the afternoon of the day on which the collection is made, or on any other Sunday, and let him watch the stream of relatives and friends of patients entering to visit those who lie within. If he has the opportunity let him one day go in himself and scrutinise the faces of those who lie in the wards; let him wonder what their lot would have been if the beds had not been there to receive them and if there had not been for them the resources of medicine and surgery of the same quality that his wealth and position would command for the prince or the millionaire.

If, however, it may seem to most men, and to those in

particular whose opportunities for observation and mental powers enable them to form sound and just opinions, that the hospitals of London viewed as a whole should receive the support of the community without cavil or stint, it must not be forgotten that they have their opponents and detractors. The "antivivisectionist" and the "antivaccinationist," with many other preachers of fads, whose belief in their peculiar form of fanaticism obscures the sounder judgment of possibly kind-hearted and well-meaning persons, are not always scrupulous in the utterance of what in fact may be wholly baseless slanders, and it is much easier to manufacture or to spread a slander than to combat or to stifle it. Every time some cause of complaint, imaginary or having a foundation in fact, arises against a hospital (the authorities governing which are but human beings and liable to error) there are at once many to give circulation to the story, until it assumes a form so exaggerated and distorted that the original actors in the supposed incident would fail to recognise either themselves or it. Against individual hospitals also questions with regard to their expenditure may arise or accusations may be made generally having for their foundation the large sums annually needed and spent by these great institutions in our vast metropolis. Such ill report may tend to dry up the springs of charity, but to all who may feel anxious about the management of our hospitals the Metropolitan Hospital Sunday Fund can give an adequate reply. With regard to questions of economy in the administration of their incomes by the hospitals and their general efficiency and organisation, the Fund has done, and is doing, the very work which should win the confidence of all who otherwise might be mistrustful. The useful supervision which it has exercised in the past, the care which it has exerted in the distribution of the public money intrusted to it, have insured for all that their alms shall not be spent improvidently or upon objects not worthy of their charity. With regard to slanders affecting individual institutions, or levelled against the hospitals of London as a whole, they are best left to disprove themselves under the observation of any who have the opportunity to test their truth; and if the hospitals have some enemies let it be known that they have many thousands of friends whose goodwill can be judged from the prosperity of the Metropolitan Hospital Sunday Fund in the present year. These friends will be men, women, and children of all classes and of all religious creeds, who will be united in the forwarding of a common end, just as in the wards of the hospitals there are gathered together men, women, and children, without distinction of creed or race, and with one common qualification to admit them, the combination of poverty with physical suffering.

The Research Defence Society.

AS the present number of THE LANCET reaches many of our readers' hands the first general meeting of the Research Defence Society is being held at the Royal Institution in Albemarle-street, under the presidency of Lord CROMER. We have already offered a cordial welcome to the new society and have set forth both its objects and the methods by which its founders will endeavour to attain them; and to this welcome we may now add a recognition of the happy omen afforded by the locality in which the first meeting is assembled. The Royal Institution has for many years been the chosen home of physical science in its most advanced developments, and has been associated with some of the greatest of scientific discoveries. It has witnessed the labours of DAVY, of FARADAY, of TYNDALL, and the accomplishment by their worthy successor, Sir JAMES DEWAR, of many victories over some of the most stubborn conditions of nature; but in its long career it has lent itself to no more worthy or more valuable work than that of spreading abroad a knowledge of the true aspects of the experimental side of physiological inquiry, of the means by which the results sought for are obtained, and of their value in the extirpation of disease, in the prevention of suffering, in the prolongation of life. The society is also, we think, as fortunate in its choice of a President as in its place of meeting. Lord CROMER is not, as far as we are aware, a practical worker in either physical science or physiology; but he is a man who for many years has shown, in a very difficult and very conspicuous position, an almost unexampled power of seeing through the appearances of things to their essentials, who has proved himself to be unmoved by clamour and invulnerable against claptrap, and whose first act, on relinquishment of his great office, was to justify his policy and his career in a book which shows him to be as complete a master of lucid statement as of practical administration. The public may feel entire confidence that statements which are put forward under the sanction and authority of Lord CROMER have been established beyond the reach of cavil; and that arguments based upon these statements which have survived the ordeal of his criticism are not likely to be refuted by any adversaries. He may be regarded, we think, as the average unphysiological Englishman with his critical faculty raised to the *n*th power, and with an earnest determination, such as befits a man who has long exercised authority, that the beliefs of his countrymen should be founded upon accurate and sufficiently extensive information. We may be sure that he has not consented to take the presidency of the new society save after a complete study of the questions with which it undertakes to deal. His presidential address will be delivered at 5 P.M. this afternoon, Friday, June 19th, and the meeting will later be addressed by Lord ROBERT CECIL, Mr. WALTER LONG, Sir THOMAS BARLOW, and Mr. BUTLIN.

Without waiting for the presidential address the society has already commenced its career of usefulness by the issue of several leaflets, pamphlets, and other publications; and among these we are glad to be able to call special attention to a reprint of the evidence given by Lord Justice MOULTON before the Royal Commission on Vivisection. This evidence, which was given more than a year ago and which but for the intervention of the society would still be buried in the tomb furnished by an enormous folio, is now published for a shilling in a well-printed octavo pamphlet of 80 pages and contains an admirable and lucid statement of the case for science, as opposed to that put forward by fanaticism or ignorance. The Lord Justice commenced his evidence by saying that he had long foreseen the coming of a time when the justification of scientific research in connexion with curative science would be examined, and that he had noticed the tendency of

an advance in science to take the workers therein beyond the ken of the ordinary public. He had felt that a need would come for interpreters between those engaged in research and the public so as to explain and to justify the work, and for this reason he had carefully considered the whole subject. He arrived, many years ago, at "a very deep conviction" upon it, and he therefore welcomed the opportunity of putting before the Commission the reasons which had guided him to a conclusion. The real issue is, he declared, whether curative science is to be an experimental or merely an observational science, and he desired to impress upon the Commission that the importance of that issue cannot be exaggerated. It would be impossible, within the limits which space imposes upon us, to do any justice to the masterly and eminently judicial manner in which the subject was then handled. For fulness of knowledge, for abundance and appropriateness of illustration, for serenity and impartiality of thought, for felicity of diction, the evidence may challenge comparison with the most lucid and the most dignified of the many lucid and dignified utterances which have proceeded from the Bench; and its value is increased by the fact that although the Lord Justice did not hesitate to treat with proper scorn the outpourings of, for example, Mr. PAGE HOPPS, he displayed throughout a perfect appreciation of the adversaries' point of view and of the difficulties which they might experience in coming to an agreement with him. By the issue of this pamphlet the society has placed a weapon of great value in the hands of the medical profession, and any practitioners who may desire to discuss the subject with their patients will be well advised if they augment their argumentative resources by drawing upon those which the words of the Lord Justice are calculated so well and so liberally to supply.

Another pamphlet, and one sold at the low price of 3*d*., is the history, by Colonel DAVID BRUCE, F.R.S., R.A.M.C., of the extinction of Malta fever as "a lesson in the use of animal experiment," and it is a reprint with small alteration of the paper read recently by the author before the Royal Institution. Dr. EYRE is now writing at length in our columns upon this notable achievement so that it is unnecessary to enter into detail concerning it; but we may point out that this paper, like the evidence of Lord Justice MOULTON, is admirably calculated to convey to the public some approach to a knowledge of what experimentation means and is. The investigation scarcely included a single feature to which even Mr. PAGE HOPPS could take exception, but it occupied something like three years and required an exhaustive examination of all the channels through which it seemed possible for infection to be introduced. When we repeat that prior to this investigation between 600 and 700 soldiers and sailors contracted the fever annually, to be disabled by it for an average period of 120 days each, and that it has now ceased to occur, we shall have proved, as much as an example taken from a single malady ever can prove, the enormous importance of such experimental inquiries and the extent to which they are practically certain, sooner or later, to add to the sum of human happiness and to diminish the sum of human suffering. Another pamphlet of the series contains the evidence given to the Commission by Professor W. OSLER, F.R.S., on the control of yellow fever and malaria by means of knowledge obtained through experiment, and yet another is a statement compiled by the officials of the society itself concerning the diminution of mortality from diphtheria which has been produced by the employment of antitoxin. It would be difficult to exaggerate the benefit which may be hoped for from thus pressing home to the public, through the medium of a cheap and easily accessible literature, important facts in relation to the cure of disease and to the means by which the knowledge necessary for the purpose has been acquired; while it is not too much to hope, if the quality of this literature and the sources from which it proceeds be taken into account, that it will ultimately reduce to their true level the ravings of the common sort of antivivisectionists. The society has begun a good work well and we trust that medical practitioners in all localities will do what is in their power to extend a knowledge of its publications and to obtain help for the promotion of its aims. The question at issue is a national rather than a professional one, for the knowledge of the physician is, after all, more important to the patient than to the physician himself. Everything which hinders the increase of this knowledge either by experiment or in any other manner is inimical to the welfare of the human race, and for this reason alone should be discouraged by all philanthropists whose philanthropy is other than a pretence.

Royal College of Surgeons of England: Election of Members of Council.

THE Fellows of the College on Thursday, July 2nd, will have to elect four members of Council to fill the four vacancies which exist. Voting papers are being sent to the Fellows, so that even those who are as far off as Egypt will be able to participate in the election. For the four vacancies eight candidates have come forward, and the Fellows will have a task of no little difficulty in choosing four from the list. The candidates are Mr. A. PEARCE GOULD, Mr. W. HARRISON CRIPPS, Mr. GEORGE EASTES, Mr. BILTON POLLARD, Mr. W. F. HASLAM, Mr. C. B. LOCKWOOD, Mr. W. ARBUTHNOT LANE, and Mr. J. LYNN THOMAS. The considerations which should influence the Fellows in the selection of candidates for whom to vote are many. As a rule, a candidate should be on the teaching staff of a medical school, since it is very necessary that the members of the Council should be in touch with the current teaching, for on the Council depends the course of study which candidates have to follow before they can present themselves for examination, and the arrangements for examination must be in harmony with the arrangements for teaching. It is not unreasonable that a Fellow should continue to be on the Council even after he has ceased to be on the active teaching staff of a hospital, for the ripe experience will go far to counterbalance any disadvantage that might follow the withdrawal from teaching. Should a member of the Council be an examiner of the College? As a rule it is better that the examiners of the College should not be members of the Council, though there was a time when nearly every examiner was on the Council. It is useful to have one or two examiners

on the Council, so that the Council may be in close touch with the examination board, and these should be as a rule senior examiners who have only a year or two more to serve as examiners. It is certainly not desirable to have on the Council Fellows who have but recently been elected examiners. The question naturally arises, Should Fellows who have already served a term on the Council be re-elected? The answer is clear; it is desirable that there should be an element of continuity in the policy of the Council, and that is little likely to be attained if each year three new Fellows are elected. Two terms of office of eight years each should suffice for nearly all Fellows; the cases must be rare indeed where it is desirable that a Fellow should serve more than 16 years on the Council. Lastly, we have to consider the proportion that provincial Fellows should bear to London Fellows on the Council. There are 24 members of Council and it is not unreasonable that four of them should be provincial Fellows. It is true that provincial Fellows are often as assiduous in attendance on the meetings of the Council as are those Fellows who are resident in London; nevertheless, the difficulties of attendance are greater for provincial Fellows and it would not be well to increase beyond four the number of provincial members of Council. There are at present on the Council four Fellows who are, or have been, connected with provincial medical schools and we see no urgent reason why this number should be increased.

It would be well if the London representatives should be fairly equally distributed among the London medical schools according to their importance and the number of their students, but it is probable that the larger schools, such as St. Bartholomew's and Guy's, will always have rather more than their share. While on this subject of the representation of the various schools it may be as well to refer to the practice of canvassing which is yearly increasing. Not many years have passed since the amount of canvassing was of very meagre proportions, but now much has been changed and private letters are sent widely asking the recipients to vote for one or another candidate. We have heard that at the last election a meeting was held at one medical school to decide which of the surgeons should stand as a candidate. In a few cases, even, circulars have been issued asking for the Fellows' votes. We hope such practices as these will cease; they are unworthy of an institution like the College of Surgeons; and it is indeed a degradation to bring an election of members of Council of the Royal College of Surgeons of England to the level of a political contest.

We will now consider in order the several candidates. Mr. PEARCE GOULD has already served one term of eight years on the Council, and from his position at the Middlesex Hospital and the experience which he has already gained on the Council he should prove a very useful member. He should certainly be re-elected. Mr. HARRISON CRIPPS was elected on the Council in 1905 as a substitute for Sir ALFRED COOPER, so that he has at present had only three years on the Council. We think that he should be re-elected. Medical men, surgeons as well as physicians, are, it is well known, nearly always very poor business men, and it is therefore very useful to have on the Council a surgeon who, in addition to professional eminence, is capable of assisting the College in business matters. Mr. GEORGE EASTES is the senior of the candidates who have hitherto had no seat on the Council. He took the Fellowship of the College in 1868 and he is in general practice. Although the best arrangement would give Members of the College the right to sit on the Council if elected the next best plan is to choose a Fellow who is in general practice. For it cannot be denied that the surgical consultant is not in a position to be conversant with the conditions and difficulties of general practitioners; this is knowledge that can only be possessed by someone in general practice, and it is therefore highly desirable that a general practitioner should be on the Council. For these reasons we support Mr. EASTES'S candidature and we should view his success not so much as a personal success of Mr. EASTES as a vindication of the principle that general practitioners should have a general practitioner as their representative on the Council. Mr. BILTON POLLARD is surgeon to University College Hospital. He took his Fellowship in 1881. He would make an excellent member of Council and we have little doubt that he will eventually attain to this honour but at present he is a member of the Board of Examiners and as he was elected there only in 1905 he will in all probability be a member of that board for seven years more. This appears to be an argument, not perhaps of any very great strength, against Mr. POLLARD'S present candidature. Mr. W. F. HASLAM is surgeon to the Birmingham General Hospital. He became a Fellow of the College in 1881 and he has been a member of the Court of Examiners of the College for the last five years. If he be reappointed examiner for a second period of five years that should to some extent count against his candidature for the Council. Mr. C. B. LOCKWOOD, who is surgeon to St. Bartholomew's Hospital, also took the Fellowship in 1881. He is not an examiner at the College and he is sure to receive much well-deserved support. Mr. ARBUTHNOT LANE is surgeon to Guy's Hospital and his Fellowship dates from 1882. He is well known as a surgeon with original ideas and would, we think, prove an admirable councillor. The youngest candidate is Mr. LYNN THOMAS who passed the Fellowship in 1892. So far as we are aware no surgeon connected with a Welsh hospital has hitherto been elected to a seat on the Council, and this gives some support to Mr. LYNN THOMAS'S claim. His undeserved pecuniary losses from legal causes have recently won him the sympathy and the help of the medical public of this country; but while we cordially agree with the reception which the appeal for funds on his behalf has met with we cannot help thinking that this appeal renders his present candidature a little ill-timed.

We have reviewed briefly the claims of the candidates, and we conclude that an examination of these claims will show in the first place that the two retiring candidates, Mr. PEARCE GOULD and Mr. HARRISON CRIPPS, should be re-elected. Thus six candidates are left for the remaining two seats. We think that Mr. POLLARD, Mr. HASLAM, and Mr. LYNN THOMAS may well wait for a more suitable opportunity. Mr. EASTES deserves a seat as a representative of general practitioners, and the contest for the final seat lies fairly evenly between Mr. LOCKWOOD and Mr. ARBUTHNOT LANE. Of these two the latter appears to us

to be the more suitable candidate. We are therefore in favour of the election of Mr. PEARCE GOULD, Mr. HARRISON CRIPPS, Mr. EASTES, and Mr. ARBUTHNOT LANE.

Annotations.

"Ne quid nimis."

MEDICINE AND DIPLOMACY.

Mr. Escott's fascinating volume[1] recalls the many sources from which diplomacy has recruited its ranks. Literature and science, the Church, law, and medicine, even fine art itself, have each in turn been drawn upon to strengthen its *personnel* and to achieve its ends. From Machiavelli in the fifteenth century and George Buchanan in the sixteenth; from John Milton and Matthew Prior in the seventeenth and eighteenth, down to Guizot and Thiers in the nineteenth centuries, the humanist and the man of letters have been pressed into its service, often with epoch-marking effect. Science also, from Francis Bacon to the brothers von Humboldt, from Cuvier and Bunsen to Barthélemy St. Hilaire, has contributed to the fighting force, regular or auxiliary, of the diplomatic campaign. Cardinals like Richelieu and Mazarin, Consalvi and Antonelli are examples of what diplomacy owes to the Church, while as for the law, its representatives in the European chanceries need no special enumeration. Leonardo da Vinci and Michael Angelo in their respective careers gave evidence of a genius for affairs which might have made them as conspicuous in the diplomatic as in the artistic world. There is, indeed, no calling which evolves or evokes the higher faculties to which diplomacy has not, on occasion, been indebted, and the healing art, particularly when practised at court or in camp, is not without its typical examples. Dealing with mankind in its *vie intime* it possesses a training and an experience often of special value in the dissection of motive, the analysis of purpose, or the insight into character—a fact to which Lord Malmesbury (of whose "Memoirs of an ex-Minister" Mr. Escott makes effective use) has borne memorable witness. The physician to whom he acknowledges such indebtedness was the London consultant, so honourably associated with Sir Henry Halford and Sir Henry Holland in the last illness of Sir Walter Scott, Dr. Robert Fergusson, and to him as his adviser not in matters of health only but in "*la haute politique*" the Foreign Secretary in Lord Beaconsfield's administration expresses gratitude and the reasons of his feeling grateful. Similar testimony in the same connexion is borne in the "Diplomatic Reminiscences" of Lord Augustus Loftus, whose recital of the part taken in Russian affairs by the Tsar's body-physician, Sir C. Wyllie, is one of the most dramatic episodes of his entertaining work. Another physician, who, however, soon ceased to practise under the lure of a special aptitude for statecraft, was the philosopher and historian, Sir James Mackintosh, to whom diplomacy is indebted for one of its most characteristic phrases, to wit, "masterly inactivity"—the continental equivalent of which, so familiar to Metternich, Cavour, and Antonelli, is the far inferior "*inertia sapientia*." Mr. Escott draws attention (pp. 378–80) to the diplomatic insight and critical power of another medical man who after a short career as "physician of Legation" at Brussels entered the foreign service as British Consul at Spezia, Charles Lever, who, in the "O'Dowd Papers" in *Blackwood* during the "sixties" and "seventies" of last century, proved "the most accomplished and unsparing censor of English foreign policy then under the F.O." A telling anecdote embodying the combined sagacity and wit of the author of "Jack Hinton" and "Charles O'Malley," *apropos* of the *causa causans* of the war in the Crimea, is one of many others enlivening Mr. Escott's penultimate chapter entitled "Offical and Unofficial Diplomatists"—a chapter only less interesting than the concluding one headed "New Views and New Ventures," in which the author, in saying "*au revoir*" to his readers of all professions, leaves few of them with more reason to thank him than those belonging to the medical.

[1] The Story of British Diplomacy: Its Makers and its Movements, by T. H. S. Escott, author of King Edward and His Court, Society in the Country House, &c. Fisher Unwin. 1908.

THE MEMORIAL TO THE LATE MR. GEORGE HERRING.

ON June 15th, in the presence of constituents of the Metropolitan Hospital Sunday Fund and others, including the Sheriffs of London, the Archdeacon of London, the Chief Rabbi, Mr. Henry Morris (President of the Royal College of Surgeons of England), Canon Fleming, Sir William Church, Sir Joseph Dimsdale, Bishop Lawrence (of Boston, Massachusetts), the Hon. Sydney Holland, Mr. William Herring, and Sir E. Hay Currie, the Lord Mayor of London unveiled at the Mansion House a marble bust of the late Mr. George Herring. The bust is the gift of the Metropolitan Hospital Sunday Fund which is the residuary legatee under Mr. Herring's will. In asking the Lord Mayor to accept the bust for the Mansion House the Hon. Sydney Holland, after briefly referring to the way in which Mr. Herring had risen from what is commonly called a humble origin to a position of wealth, said that the late munificent benefactor of the Fund took the greatest pleasure in using his wealth for the benefit of others. The Lord Mayor, in accepting the bust on behalf of the Corporation, read the following letter which has been engraved on a brass plate and affixed to the bust:—

> Dear Mr. Herring,—The King desires me to say that he has been much interested and gratified by hearing recently of the splendid work which you have carried on in the cause of humanity. It is very pleasant to His Majesty to think there is some one like yourself who, with no ulterior object in view of a personal nature, undertakes so many useful and excellent acts of charity at a very considerable cost of time and money, and who is contented with the feeling that what he has done has been for the benefit of his suffering fellow creatures. The King, I can assure you, appreciates very highly your admirable work.
>
> Believe me, yours truly,
>
> KNOLLYS.

We hope that the noble example of the late Mr. George Herring will be an incentive to all to give of their charity on Sunday next, Hospital Sunday, and will enforce the application of Coleridge's lines with which we commenced our appeal on behalf of the Fund in the special annual Supplement to THE LANCET published last week:—

> "So many are
> The sufferings which no human aid can reach
> It needs must be a duty doubly sweet
> To heal the few we can."

Bishop Lawrence, speaking in support of the objects of the Fund, hoped that the thankoffering in connexion with the Pan-Anglican Congress now being held would not detract from the success of the forthcoming Hospital Sunday collection, and Mr. Henry Morris referred to the harm which opponents of vivisection were doing to the Fund. He said that to influence adversely the receipts of hospitals which had a medical school attached to them by such means as the scattering of leaflets in churches was both inhuman and illogical. The victims were the patients, not the doers of those deeds which antivivisectionists detested. The attempt to reduce hospital funds for this reason was the more unreasonable, for those who were performing investigations were not probably connected with the staff of any hospital. No contributions to hospitals unless specially ear-marked for use by a medical school were distributed either by the

Hospital Sunday Fund or by King Edward's Hospital Fund to any hospital which made a grant to a medical school.

VISIT OF FRENCH MEDICAL PRACTITIONERS TO ENGLAND.

LAST week we referred to the approaching visit of French medical men who form what is known as the "Voyages d'Études Médicales." It now appears that our French colleagues who constitute the "Assemblée Nationale des Praticiens de France" have also decided to send a deputation to England, "à l'occasion de l'alliance et de l'exposition," and have chosen 300 of their members for that purpose. This association consists of some 12,000 members, and therefore the delegates will represent a large section of the medical profession in France. They are to arrive on Tuesday, June 30th, and will leave on Thursday, July 2nd. The notice, truly, is somewhat short and their stay is to be very brief, but we bid them a cordial welcome and trust that they will have an agreeable visit. The Lord Mayor and Lady Mayoress have invited the delegates to a reception at the Mansion House on the afternoon of Wednesday, July 1st.

THE STRAWBERRY SEASON AND ITS LESSONS.

THE strawberry season comes and goes with a rapidity which is a disappointment to those with whom this fruit is a pronounced favourite. The popularity of the strawberry is almost universal and it is instructive to listen to the discussions which invariably arise at this time of the year when the influx of strawberries is commencing as to the merits and demerits of the fruit. The strawberry is at any rate distinguished from most other fruits by receiving a considerable amount of criticism in regard to its effects for good or for ill upon the human mechanism. There is mentioned, for example, the instance which we know to be true that with some persons, generally children, a strawberry idiosyncrasy is exhibited; they cannot partake of a single strawberry without a rash on the skin simulating that of measles following. On the other hand, there are some who are of the opinion that the strawberry is good "for the gout," for the skin, and for the digestion. In this connexion it may be pointed out that the strawberry has received the attention of medical men with results that are of interest. There can be little doubt, for example, that the juice of the strawberry exhibits a distinctly digestive action. Hard boiled white of egg breaks down when the egg is smeared with strawberry juice owing to the solvent or hydrolysing action of some enzyme in the juice on the albumin. This may possibly account for the improvement in nutrition which is effected by the free administration of strawberries in cases of sprue and the distinct alleviation of the worst symptoms of that disease. It is probable, however, that the raw juice of other fruits would have a similarly favourable effect since most fruit juices contain an active digestive agent. To some persons who are prohibited from including ordinary sugar in their diet strawberries need not be denied, since the small amount of sugar that is present is in a very easily digested form; ordinary sugar, of course, must not be added for sweetening purposes. As to strawberries being good for the gout opinions vary, but there can be little doubt that a generous diet of strawberries is calculated to preserve an alkaline condition of the blood by reason of the alkaline salts present in the fruit. But in this matter, again, the strawberry is not exceptional, as most fruits contain the same salts in greater or less proportion and in general possess anti-scorbutic properties. On the other hand, the strawberry, unless it be carefully cleaned, may be the means of introducing into the alimentary canal bacteria of a virulent type. Metchnikoff has calculated that no less than 128 billions of bacteria are formed daily in the digestive tract, of which some are useful while others are dangerous. He suggests that care should be taken to exclude as far as possible foreign bacteria from this environment if longevity of life is desired, and in the category of foods to be avoided he places uncooked salad and fruit, and more especially strawberries. It is perfectly true that the strawberry is peculiarly liable to contamination and a word of warning on this point appears to be necessary. It should be remembered that one of the chief sources of contamination of the strawberry is the manure bed on which it lies, although it must be admitted that a straw litter is provided to prevent the fruit coming into contact with the soil. It cannot be denied that such a resting-place must be infested with bacteria foreign to the human organism. Moreover, the conditions under which the fruit is harvested are often far from being cleanly. The obvious precaution to be observed is that the fruit should be washed very carefully before it is placed upon the table or before it is eaten. There is reason for being particularly scrupulous in this matter, as there can be little doubt that certain disturbances of the intestinal tract which sometimes follow the eating of seemingly sound fruit arise from a neglect to take this simple and logical precaution. External contamination apart, and speaking generally, there is little evidence to be found which can be said to oppose the view that this favourite fruit is when sound and ripe thoroughly wholesome.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN.

THE course of lectures and demonstrations on the medical inspection of school children organised by Mr. W. A. Lawton, the executive secretary of the Incorporated Society of Medical Officers of Health, during Whit-week in London was attended by medical officers of health and school inspectors from all parts of the country. The opening meeting took place on June 9th in the lecture room of the Incorporated Society of Medical Officers of Health at No. 1, Upper Montague-street, Russell-square, London, when the gathering was welcomed by Dr. James Kerr, medical officer (education) of the London County Council and Fellow of the society. Dr. Kerr compared the methods employed by his department with those advocated by the Education Department. The course extended from June 9th to 12th, and the following lectures were delivered in accordance with the announcement already made by us: The History and Practice of School Inspection, by Dr. C. J. Thomas, assistant medical officer of the education department of the London County Council; School and Home, by Dr. H. Meredith Richards, medical officer of health of Croydon; Anthropometry, by Dr. F. C. Shrubsall; Eyes and Ears, by Dr. Kerr; School Clinics, by Dr. A. H. Hogarth; Throat, Nose, and Ears, by Mr. P. Macleod Yearsley; and Reports and Office Routine, by Mr. E. Greer. Demonstrations of special cases and examinations for ringworm were dealt with by Dr. Kerr and Dr. J. A. H. Brincker at the London County Council Education Offices, Victoria Embankment. Visits were also made to the special schools of the London County Council. The members were also invited to inspect the exhibit of the Hungarian Minister of Education at the Hungarian Exhibition at Earl's Court. The final meeting took place at the rooms of the Incorporated Society of Medical Officers of Health on June 12th, when Dr. Kerr delivered a valedictory address. In the course of his remarks Dr. Kerr emphasised the need of coöperation amongst medical inspectors and the necessity of being associated with some organisation capable of safeguarding their interests in the event of any questions arising. In proposing a vote of thanks to Dr. Kerr and to all those who had taken part in the proceedings Dr. F. E. Fremantle, medical officer of health to the Herts county council, read the following resolution

which had been passed at a special meeting of the Fellows of the Incorporated Society of Medical Officers of Health attending the course:—

That this meeting of Fellows of the Society of Medical Officers of Health attending the course of lectures on the medical inspection of school children, hereby urgently request the Council to form a School Medical Officers' Section of the society and would suggest that Dr. James Kerr be asked to accept office as first chairman of the section.

Dr. Sidney C. Lawrence, medical officer of health of Edmonton urban district, in seconding the motion paid a tribute to the able manner in which the whole of the arrangements in connexion with the course had been organised by Mr. Lawton, and the motion was carried with acclamation Dr. Kerr briefly replied. Club rooms were provided for the lady graduates attending the course, at the rooms of the society, which were furnished and decorated by Messrs. Defries. An exhibition of appliances and materials in connexion with the medical inspection of schools was also organised at the same address and Dr. Kerr took the opportunity of demonstrating the use of some of the special apparatus on view. Among the exhibits were Wingen's light-testing apparatus, by A. Krüss, Hamburg; light-saving shadowless globes as used by the London County Council; weighing machines and measuring apparatus, by Messrs. W. and T. Avery, Limited, of Birmingham, Messrs. Day and Millward of Birmingham, and Messrs. Aston and Manders of London; measuring apparatus, by Messrs. John Rabone and Sons of Birmingham; outfits for school medical inspectors, by Messrs. F. Davidson and Co. of London; dental charts, by the School Dentists' Association and Professor Dr. Jessen and Dr. Stehle of Strasburg; record systems and registers, by Messrs. Charles Knight and Co., Limited, of London; index cards and record systems, by the Specialist Press, Limited, of London; microscopes and bacteriological apparatus, by Mr. Charles Baker of High Holborn, London; Equifex disinfecting apparatus and Pasteur filters, by Messrs. J. Defries and Sons, Limited, of London; special disinfectants for schools were also exhibited by Jeyes Sanitary Compounds Company, Limited, Messrs. Newton, Chambers and Co., Limited, and the Sanitas Company, Limited; typewriters by the Blickensderfer Company; and duplicating apparatus, by the Tympagraph Company, Limited, London.

XEROSTOMIA DUE TO ATROPHY OF THE SALIVARY GLANDS.

IN the *Gazette Médicale du Centre* of March 1st Dr. Louis Dubreuil-Chambardel of Tours has described a remarkable case of complete suppression of the salivary secretion due to progressive atrophy of the salivary glands. A man, aged 61 years, sought advice in May, 1906, because his mouth had been dry for some time. He was in good health and had never had any of the eruptive fevers, except perhaps measles in childhood, or suffered from mumps or syphilis. For two years he had suffered from increasing difficulty in mastication which had led him to drink much in order to help him to swallow food. At the same time he noticed that he spat less and less although previously he secreted saliva abundantly. His appetite and digestion were good. On examination he was strikingly thin, but he objected that he "had never been fat." His face was drawn and his whiskers concealed a depression of the parotid regions. On palpation the parotid gland could not be felt. On the posterior border of the masseter was a small hard lump which, it was thought, might be the vestige of the parotid gland. The mucous membrane of the mouth was dry. The tongue was of brick-red colour, hard, and retracted. The teeth were in a bad state. On raising the tongue the projections of the sublingual glands which normally exist were found replaced by depressions. The reaction of the mouth was distinctly acid. The orifices of Stenson's ducts were visible, but a horse-hair could not be passed into them farther than five millimetres. The orifices of Wharton's ducts were obliterated. Pressure on the parotid and submaxillary glands did not cause any discharge of saliva. Mastication of bitter substances and electric stimulation had no effect in provoking secretion of saliva. Only the glands of Blandin and Weber seemed to furnish a small quantity of saliva. The sense of taste was diminished and almost abolished in the anterior half of the tongue. The lacrymal glands appeared to be normal. The urine secreted in the 24 hours averaged 70 ounces and was normal in character. Its large quantity was explained by the amount of fluid taken. The patient was examined again in October, 1907, when his condition was the same. Dr. Dubreuil-Chambardel could find in medical literature only one case similar to his. This was recorded in 1907 in *Il Policlinico* by Professor Zagari. The patient, a married woman of the working class, aged 50 years, was seen in July, 1901. She had been pregnant five times and aborted thrice. In April, 1900, she had an attack of influenza. A month after recovery she commenced to notice dryness of the mouth, which gradually increased until she could not spit. In order to masticate she was obliged to take large quantities of fluid. In January, 1902, she began to observe a loss of taste, only recognising salt and sugar when placed on the tongue in large quantities. At the same time she progressively wasted. Her appetite and digestion were good. In June there were generalised hypertrophy of the lymphatic glands and complete dryness of the mouth and absence of saliva. The sense of taste was abolished on the anterior two-thirds of the tongue. In the parotid region there was a depression, and on palpation instead of the parotid gland a nodule of the size of a hazel nut was felt. The submaxillary glands could not be found. The symptoms increased and the patient died from marasmus in September, 1902, 30 months after the onset of the disease. We may point out that under the name of "aptyalism" or "dry mouth" permanent suppression of the secretion of saliva was described at the Clinical Society of London in 1886 and again in 1888 by Mr. Jonathan Hutchinson, and in the latter year also by the late Dr. W. B. Hadden. Mr. Hutchinson, generalising on five cases which had then been recorded, said that all the patients were women past middle life and that the condition had proved persistent. In none of the cases was there depreciation of health. No treatment except in Dr. Hadden's case, in which considerable benefit was derived from jaborandi, appeared to be of any use. These English cases differ from the foreign ones which we have now reported in that no atrophy of the salivary glands was observed; indeed, Dr. Hadden noted that the salivary glands were, as far as could be made out, of normal size. The rapid wasting and fatal termination in the case recorded by Professor Zagari are so far unique. He attributed them to failure of the internal secretion of the salivary glands.

MEDICAL MEN AND INSURANCE.

TWELVE months ago, when the Workmen's Compensation Act, 1907, came into force, we impressed upon our readers the importance of safeguarding themselves against the very serious additional liabilities which were put upon them by the Act in connexion with accidents which might befall their assistants, their domestic servants, and the various employees engaged in the conduct of a medical practice. A twelvemonth's experience of the working of the Act has certainly not tended to lessen those liabilities—legislation always seems to broaden rather than to narrow in the scope of its operations; and therefore the need of insuring against the liabilities which may be incurred under the Act is certainly not less real now than when the Act first came into force. The Medical Insurance Committee (brought into existence at the instigation of

THE LANCET and of the *British Medical Journal*) in its announcement in our advertisement sheets, p. 19, draws attention to its scheme in this connexion, to which those who are not already insured may well give their attention; and those who are already insured may be reminded that the time for the renewal of the premiums on the policies taken out last July is imminent.

AN UNWELCOME VISITOR.

A RECENT letter in the *Times* states forcibly as legitimate a grievance as we have noticed for some time in the correspondence columns which extend traditional hospitality to the indignant Briton. It is signed "Harold Wood," this being the *nom-de-guerre* of an inhabitant of an Essex village bearing that name and containing 700 inhabitants, in the midst of whom the West Ham corporation proposes to establish a relief hospital for the 300,000 inhabitants of West Ham. "Harold Wood" characterises this procedure as "perfectly heartless," considering that "there are thousands of acres available in Essex nearer West Ham." We agree with him, and although perhaps he exaggerates the danger of infection to the inhabitants which may result, the fact that the village produces large quantities of milk for the London market renders it highly undesirable that it should be made the site of a fever hospital. Property owners in the village naturally feel themselves aggrieved at a proposal which will seriously affect their holdings, and which, although legal, is nevertheless high-handed in the extreme. It will be a sad reflection on our system of local government if the villagers are unable to obtain the redress which they are seeking from Mr. John Burns. "Harold Wood" appeals for the support of public sentiment and on his showing of the facts our sympathy is on the side of the village.

THE MECHANICAL SEPARATION OF OXYGEN FROM THE AIR.

IT is not often that records of cases in the law reports reveal any facts of interest to the scientific world, but a recent judgment of Lord Justice Moulton, in the course of which he describes Linde's method of extracting oxygen from the air by a mechanical process, is an exception to the rule. This exposition should really be studied *in extenso* but the following summary may be of interest to our readers. The first thing necessary is to get liquid air. This can now be done on a commercial scale by the use of what are known as "counter-current-interchangers." Air under great pressure, after being cooled, is forced along a tube A, which is inside a tube B. From tube A it passes into a large vessel, of which tube B forms the exhaust. Owing to release of pressure the temperature of the air falls considerably and as the cold current passes back along tube B the incoming current is cooled. In the result a very rapid lowering of temperature takes place so that eventually the air assumes the liquid form and condenses in the vessel at a temperature of 91° absolute. Having got his liquid air, Linde set himself to devise a method of separating the oxygen from the nitrogen. By fractional distillation something can be effected, as the nitrogen, being more volatile, passes away first. This process, however, is not commercially practicable. Linde then hit upon the idea of adapting the principle of the Coffey still which is used for rectifying spirit. Essentially this apparatus consists of a chamber full of baffle plates or stones. The wash—that is, the liquor containing a small percentage of alcohol—is admitted at the top and allowed to trickle down through the vessel. It is found that if steam is admitted at the bottom it will cause evaporation of the alcohol and will pass away at the top heavily charged with alcohol, while the water in the wash will sink to the bottom. The problem was how to apply this method to liquid air. Linde starts with a vessel of liquid oxygen which is kept "boiling" at a temperature of 91° absolute. The air coming off from this passes up through a rectifier and corresponds to the steam used in the Coffey still. At the same time the liquid air which is condensed in the large vessel above mentioned is forced up under pressure to the top of the rectifier. Coming out at a small nozzle the fall in pressure causes a fall in temperature from 91° absolute to 78°. This liquid air thus lowered in temperature trickles down through the rectifier and corresponds to the wash in the Coffey still. What is the result? The oxygen, rising at a temperature of 91°, causes evaporation, and the nitrogen, being more easily vapourised, goes off as gas, while the oxygen continues its downward path in liquid form. The oxygen coming from below is also liquefied before it reaches the top and trickles down again. In the result there is a constant accession of liquid oxygen in the vessel beneath the rectifier. This can be drawn off from time to time and constitutes the commercial product of the apparatus. By proper adjustment a gas consisting of 98 per cent. of pure oxygen can thus be obtained. In the case in question the validity of a patent for this apparatus was called in question but its validity was upheld. We only refer to the invention, however, as a striking instance of the practical application of those wonderful discoveries which have recently been made with reference to the liquefaction of the permanent gases.

LONDON AS A CITY OF HEALTH.

FOR a population which easily counts into several millions, London is a remarkable city from the point of view of health, and a splendid example to the rest of the cities of the world. The provincial cities, too, may well look upon the health statistics of the mother city with envy. It is a cheap enough indictment to say, as some of our continental neighbours do not weary in saying, that for the most part London is beset with fogs, but the remark loses much of its force in the face of the relatively clean bill of health which the great city invariably presents. It is a significant fact that one of the trials of the English traveller abroad is the unpleasant smells which he invariably encounters in foreign cities. There is seldom a decided atmosphere of frowsiness in London of the kind which is so common in foreign countries, while it is rare that really offensive smells are met with in the streets, despite the fact that the effete products of millions of inhabitants have daily to be dealt with. There are few cities, we imagine, that can lay claim, as can London, to the frequent presence of ozone in the air, a state of things which invariably indicates a purity of condition of the air comparable with that of the sea or mountain districts. The situation of the city is unquestionably a great factor in favour of the maintenance of its health, but sanitation has also largely scored for London the great sanitary reputation which it enjoys. The Englishman is conceded the right of grumbling but there is often very little logic in his complaint. He may be often heard to appreciate the 'tween lights, the gradations of light at sunset or at sunrise, of his country, but the happy mean in regard to weather never appears to come his way. It is either too hot or too cold, and it is often both according to the view of two different persons at the same time. The compensations for the vicissitudes of weather in London and in England are, however, wonderful. A summer made chilly with cool breezes brings exhilarating ozonised air, checks certain infectious diseases, but keeps us more or less wrapped up and in sheltered places. When the conditions, however, are steady and there is a continuity of hot sunny weather life in the open is agreeably forced upon us, but not a few fall under the varied and trying influences of tropical heat. In hot weather there is rarely ozone in

the air, that invariable sign of its freshness; in cold weather ozone is commonly present even in the air of London. Such, at all events, has been the case in the metropolis and country during the last few weeks, when once again we were threatened with a cold summer. The fact is that ozone and fresh vitalising air are manufactured by the ultra-violet rays of the sun in the upper strata of the atmosphere, and it requires the winds or rain to bring down the invigorating mixture to the level of the terrestrial breather. Under summer conditions approaching a tropical steadiness and intensity the air does not appear to gain this invigorating quality. Many cities are sought after as places of holiday merely for the mental recreation which they offer, but unfortunately few of them present, as London can justly claim to present, a physical as well as a mental recuperative environment.

A YEAR'S WORK OF THE LIVERPOOL POLICE.

WE have before us the report of the head constable of Liverpool on the police establishment of that city and on the offences and crimes perpetrated within its boundaries during 1907, together with appropriate tables and statistics. The report is a breezily written document containing interesting information and some suggestive opinions on topics connected with the various duties fulfilled by the police, many of which, we need hardly say, are not even indirectly connected with crime. Among these matters of a non-criminal nature are one or two which, if the reader were able to pursue them further than does the report, might prove to be of considerable interest. We find, for example, that during last year members of the Liverpool police force rendered first aid to injured persons in 854 cases and that in 640 of these the service so performed was specially commended by the medical men under whose charge the patients ultimately came. In 1906, however, these figures were respectively 926 and 793—a falling off in the rendering of first aid balanced by an increased number of patients conveyed to the hospitals without receiving it. To some extent the difference seems to be accounted for by a drop of 68 in the number of sergeants and constables holding medallions after three examinations given by the St. John Ambulance Association, but on the other hand, there is an increase of 32 (1930 as against 1898) in the number of those holding first-aid certificates. The power to render first aid in cases of accident and sudden illness is a valuable equipment for a policeman, and none the less so because it is likely to guide him to promptitude in recognising cases which urgently require the presence of a medical man and in which a constable, even though highly trained, will not be of use. An interesting duty assigned to the police at Liverpool is referred to in a return which states that 1996 cases during last year were inquired into by the police relating to insufficiently clothed children, and that these were reported to the "Liverpool Police-Aided Clothing Association." The care of drunkards is a topic in which the police are naturally interested, and Mr. Dunning, the author of the report referred to, has a good deal to say as to the difficulty of effecting reform under existing conditions. He comments in particular upon the absurdity of shortening all terms of imprisonment, including those upon persons convicted of drunkenness, on account only of good behaviour in prison unaccompanied by any prospect of better behaviour when at large, such release in the case of drunkards being at once celebrated by another bout followed by a fresh term in gaol. Statistics showing the number of arrests for drunkenness in a year at Liverpool, arranged under the days on which the arrests took place, suggest inferences bearing upon the question how far the closing of public-houses on Sunday and the temptation of recently paid wages affect the consumption of alcohol. They are as follows: Sunday, 608; Monday, 1524; Tuesday, 1099; Wednesday, 930; Thursday, 833; Friday, 1012; and Saturday, 2759. The head constable of Liverpool is of opinion that the police might be consulted more than is the case with a view to legislation upon many matters as to which their opinion would be useful, and we are far from disagreeing with him. We observe that the number of inquests held at Liverpool during 1907 was 1016 and that in addition to the cases in which the coroner thought it necessary to hold inquests there were reported to him 652 deaths with regard to which he decided that there need be no inquiry beyond that which he made himself. We believe that the Liverpool coroner, in addition to his duties as such, sits as a magistrate, and it would certainly appear to most people that thorough investigation of the cause of death in 1668 cases in a single year—i.e., into four or five cases on every day, including Sundays—would constitute enough work to occupy the whole time of any man. Such inquiries are of great importance to the community even when the death at the outset appears to be due to causes entailing no blame for anyone.

THE ORIGIN OF PRECIPITINS.

THE production of specific precipitins for the serum of animals and for other protein substances when they are injected subcutaneously or intra-peritoneally into an animal affords an interesting demonstration of the adaptive mechanisms of the animal organism to foreign substances. The reaction also promises to be of considerable practical value as a medico-legal test, especially for the purpose of determining whether a suspected blood-clot be of human origin. The sources of production of these precipitins have been much discussed and in a recent paper Dr. J. Cantacuzène[1] describes a series of observations which he has made with a view to establish definitely where they are produced. He finds that in the organism of the normal rabbit there exist small quantities of precipitating substances for the serums of other animals and that these substances can often be produced in notable quantities by an injection of aleurone into the peritoneal cavity. These precipitins are, however, not specific—e.g., in an experiment described in the paper it was found that the precipitins so obtained exerted a precipitating action upon the serums of the horse, the goat, the guinea-pig, and the dog, although the effect was very feeble in the case of the dog. These precipitins are also formed very rapidly and can be demonstrated in the spleen, the mesenteric lymphatic glands, and the bone marrow a few hours after the injection of aleurone. These normal precipitins, as Dr. Cantacuzène calls them, are only present in very small amounts in these organs and are only occasionally to be found in the blood. Specific precipitins, on the other hand, such as those formed after the injection of horse serum, require a much longer time for their elaboration and are produced in much larger quantities. They appear to be produced in the same organs as the normal precipitins—viz., in the spleen, in the lymphatic glands, and in the bone marrow. They can be demonstrated in these organs, particularly in the spleen, several days before they appear in the blood; thus, as a rule, they can be shown to be present in the organs, especially in the spleen, about three days after the injection, while they do not appear in the blood until from six to ten days. Their formation appears to go on for a limited time only, since at the time when they appear in the blood the spleen and other organs are almost devoid of them. Dr. Cantacuzène brings forward evidence to show that it is the leucocytes, notably the "adult macrophages" or mononuclears, which are concerned in the production of these substances. He finds that if an exudate be produced

[1] Annales de l'Institut Pasteur, Jan. 25th, 1908, p. 54.

subcutaneously by the injection of aleurone the specific precipitins appear in it two or three days before they can be found in the blood; further, that they are produced in organs which are rich in mononuclear leucocytes; and that there are a considerable over-production of mononuclears in these organs and a lymphocytosis of the blood after an injection of horse serum. These observations are in accord with those of other observers as to the origin of bacteriolytic antibodies.

AN ANCIENT RECORD OF LONGEVITY.

To those interested in the history of human longevity it is well known that the record upon an old Egyptian papyrus contains a sort of lament of a veteran Egyptian who had attained the age of 110 years and complains of the discomfort arising from impaired nutrition, loss of vision, and general senility. Recently it was stated in a report from Russia that there was presented to the Czar a man, aged 126 years, who remembered distinctly serving in the army in the campaign of Borodino in 1812. Another instance of very advanced age has been discovered in an ancient record, this time in Babylonia, and relates to a member of the gentler sex. M. Pognon, the French consul at Mossul, has recently published a volume of inscriptions copied by him from various old monuments during his long residence in Mesopotamia, and among these is one in cuneiform writing giving the honourable life-history of a lady named Soumona-Damqa who was the queen-mother of Nabonidus, the last king of Babylon. The inscription is supposed to be written by herself and it is quite possible that it was dictated by her to a scribe shortly before her decease. It assures us that because of her devotion to her favourite deity, Sin, the moon god, he "had raised her head" (above that of common folk), "had accorded her an illustrious name in the nation, had granted her many days, years, which are heart's happiness, he had augmented for me so that since the time of Assurbannipal king of Assur, down to the ninth year of Nabonidus king of Babylon, the son issue of my heart, 104 holy years" (she was priestess in the temple) "he gave to me and caused me to live. As for me my eyes are brilliant, my hands and feet in perfect order, my speech clear, and food and drink suit me well." The eulogium gives a complete account of her career and we know from another cuneiform chronicle that it was in the ninth year of her royal son's reign that her obsequies took place. This record is well worthy of being placed beside others of a long and healthy life.

PICRIC ACID IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

IN a recent number of the *Bulletin de la Société Chimique du Nord de la France* M. Nourtier describes a new mode of treatment for pulmonary tuberculosis which was discovered by accident. In 1885 a workman suffering from tuberculosis applied for employment at a chemical works and was placed in a room where he was exposed for six or eight hours every day to the vapour of picric acid issuing from large vats; in addition, it was his duty to sift the dry acid from time to time. His health began to improve until at the end of two months he was cured of the malady. When examined by Dr. Hue of Rouen in November of the following year it was found that his recovery was still maintained. As a result of this experience Dr. Hue made a further trial of this unusual remedy, advising phthisical patients to inhale the vapour for three hours a day. In some cases no amelioration was observed but in others a cure was effected in a short time, and a tuberculous rabbit was treated with equally good results. The treatment consisted in placing about two ounces of picric acid and two pints of water in a porcelain dish and boiling the mixture over a stove. The patient was then instructed to inhale the moist vapour, care being taken to replenish the water from time to time. The inhalations were prescribed for two or three hours daily. Dr. Hue did not continue his investigations further but in 1900 Dr. Montin of Boulogne-sur-Seine took up the work, injecting a pure culture of tubercle bacilli into the lungs or the buttocks of guinea-pigs and subsequently treating them with the vapour of picric acid. He found that the treatment prevented loss in weight and retarded the disease, and in some cases effected a cure. It should be added that the administration of picric acid is attended by some inconvenience. It readily attacks metals and its yellow colour stains the patient's skin. In some cases vomiting is produced but it may readily be stopped by discontinuing the inhalation of the vapour for a short time. Picric acid has long been regarded as a dangerously toxic substance and several instances have been recorded of its toxic action when applied externally in the treatment of burns. It has also been said to produce jaundice. In the present state of our knowledge of the therapy of tuberculosis it would seem desirable to investigate still further the action of picric acid, due care being taken to avoid the production of toxic symptoms.

THE MEDICAL MAN AND THE CORONER.

SINCE our issue of June 13th letters have appeared in the columns of the *Times* from Sir Victor Horsley and Mr. Troutbeck, and interviews with the latter have been published by the *Daily Telegraph* and the *Standard*, all of which confirm us in our disapproval of Mr. Troutbeck's conduct. Mr. Troutbeck considered, according to the *Standard*, that "as matters were at present it was impossible to tell whether the deaths following operations were or were not the direct results of surgical treatment. It was possible that many of the operations were unnecessary." Does this mean that Mr. Troutbeck thinks that, with the assistance of Dr. Freyberger, he can review all the circumstances which determine a patient to submit to operation and which decide for the surgeon what his procedure shall be? Does Mr. Troutbeck think that, even with Dr. Freyberger's support, he will then be in a position to tell a jury, a coroner's jury, whether an operation was necessary or not, and whether it has been properly performed or not? If Mr. Troutbeck is putting forward any claim like this it should be made quite clear to him that the public, as well as the medical, estimate of his capacities differs from his own estimate. And if this is not what Mr. Troutbeck is claiming in his anxiety to urge that his conduct has been actuated by public motives we confess we do not understand his words. To the representative of the *Daily Telegraph* Mr. Troutbeck is reported to have said that he does not suggest an inquest in every case of death after operation but only that an inquest should be held at the coroner's discretion. How a coroner with the necessarily limited knowledge of medicine possessed by Mr. Troutbeck is to come by any discretion in such a matter that could be of value to the public passes understanding. But let us suppose the case of a medical coroner, assisted, if necessary, by a highly expert pathologist, recognised by the medical profession as such. Even in these favourable circumstances Mr. Troutbeck's innovation would only be a source of mischief, for a coroner's court is no place to try delicate scientific issues and a coroner's jury is not properly composed to decide upon them. We hope that the Coroners' Society and the Medico-Legal Society will take an early opportunity of expressing their opinion of Mr. Troutbeck's views.

IN connexion with the entente cordiale médicale, Dr. Raymond, physician to Salpêtrière Hospital, Paris, will deliver an address in the library of the Royal College of

Physicians of London on Monday, June 22nd, at 5 P.M. The subject will be "Les Maladies dites Familiales (Sénescence Physiologique Prématurée Localisée à Certains Systèmes Organiques)." Members of the medical profession will be admitted on presenting their cards.

IN an annotation in THE LANCET of June 6th we announced the names of donors of several amounts to King Edward's Hospital Fund for London, with the object of raising such a sum as would enable it to distribute £150,000 a year to the hospitals of London. The name of Lord Iveagh is a notable addition to this list. He has sent the sum of £10,000 to the honorary secretaries of the Fund.

Mr. Arthur G. Bagshawe, the director of the Sleeping Sickness Bureau, who can be addressed care of the Royal Society, Burlington House, London, W., asks the medical profession to take note that he will be glad to receive reprints of any papers dealing with sleeping sickness, trypanosomiasis, and cognate subjects, and indeed any information relating to the work of the Bureau.

THE governors and medical staff of Guy's Hospital will give a garden party on Wednesday afternoon, July 8th, at 3.15 P.M., when the medals and prizes will be distributed to the successful students by Lord Rothschild. The laboratories, museums, college, the Henriette Raphael Nurses' Home, and the wards will be open to inspection from 3 to 5.30 P.M.

WE regret to announce the death of Mr. T. Garrett Horder which occurred at his residence at Cardiff on June 15th. Mr. Horder took a keen and an active interest in all questions of medical ethics and was a zealous and self-sacrificing worker in the cause of medical reform.

Dr. Eugène Botkine, physician in ordinary to His Imperial Majesty the Emperor of Russia, has been appointed an Honorary Commander of the Royal Victorian Order in connexion with His Majesty the King's recent visit to Russia.

Sir James Sawyer will preside at the dinner to be held at the Grand Hotel, Birmingham, this (Saturday) evening, to celebrate the provincial meeting of the Society for the Study of Disease in Children.

MEDICINE AND THE LAW.

Medical Attendance on Workmen.

IN the course of an inquest held by him at Hammersmith on June 4th Mr. Luxmore Drew had something to say about the lack of medical arrangements at the Franco-British Exhibition. It seems that at a time when there were 15,000 men at work there was no medical man on the spot. Since July last medical men had been called in from outside on various occasions to attend serious cases, but as they found some difficulty in getting their money they would not attend. The question raised is one of some interest. Is there any obligation thrown upon a builder or contractor to provide medical attendance and comfort for his men? So far as we know there is no such obligation. A master is not impliedly liable to pay the medical man employed by his servant. It must in each case be a question of contract. As the law now stands an employer may send 1000 workmen to carry out works at a place far removed from medical assistance. He is under no obligation to send a practitioner with them or to make any arrangement by which a local medical man shall be in attendance. Applying these principles it is clear that neither the proprietor of an exhibition nor the person who erects a building in the grounds is liable to provide medical attendance for his workman. We can sympathise with the medical men in the neighbourhood and can quite understand the attitude which they take up. No practitioner who owes a duty to his regular patients can afford to be taken away out of reach unless the person who sends for him is ready and willing to pay his reasonable fees.

Authority of Manager to obtain Medical Assistance for Workmen.

The case of Hamilton Hart *v.* Shipbreaking Company, Limited, which was heard by his honour Judge Eardley Wilmot at the Felixstowe county court on May 19th, raised a question of considerable interest in relation to the implied authority of a manager or foreman to employ medical assistance for injured workmen. The action was brought by Mr. J. Hamilton Hart to recover £6 4*s.* 6*d.* for services rendered as a medical practitioner and for medicine supplied to four of the defendants' employees on and by the defendants' request. According to the plaintiff's case four men had been sent to and attended by him. One of them had come to him several times in connexion with a certificate under the Workmen's Compensation Act, 1906, but no charge for that was included in his claim. The plaintiff did not contend that he had any specific request from the defendant company to attend the men, but based his claim on the fact that he had been paid by the defendants for similar work on a former occasion and on the fact that he knew when the patients arrived that they had been sent by the company. One of the workmen said that when he met with his first accident when in the defendants' employment he was told to go and see a doctor as soon as possible, and on another occasion when his hand was injured he was told by his foreman to go to the plaintiff who was the nearest medical man. On behalf of the defendants it was submitted that there was no evidence to connect them with any liability for the plaintiff's bill. The former payments to the medical man had been made *ex gratia* in respect of attendances upon men who had left the neighbourhood, the company not desiring to see the medical practitioner go unpaid. It was pointed out that as the injured men had received a considerable sum in compensation the company ought not to be held responsible. The defendants' foreman repudiated the suggestion that responsibility for the medical attendance was undertaken either by himself or on behalf of the defendants. His honour said that the first question which he had to consider was whether the defendant company's manager or timekeeper had an implied authority to pledge the credit of the company. He thought that, in all the circumstances, there was such implied authority. The manager in question was left at the works wholly in charge, looking after the interests of the company, and inasmuch as the company was clearly liable for accidents under the Workmen's Compensation Act the manager had to do his best for the company. In these circumstances it was his first duty, when a man was injured, to send him at once to a medical man, otherwise what was comparatively a slight injury might develop into a serious one or even end in death. In the present case the manager having seen the injured men it came within the scope of his authority, and was in the interests of his employers, to send them to a medical man, and in doing so he bound his employers. It was sufficient that he told the men to go to a medical man, not some particular medical man. His honour therefore gave judgment for the plaintiff for the amount claimed. A stay of execution was granted pending an appeal. A master is not bound to provide medical assistance for his servant in case of illness or accident (otherwise than accident occurring in the course of employment), but the obligation (if any) must arise from contract; nor will such a contract be implied simply because the servant is living under the master's roof. It has been decided that it is not incidental to the employment of a guard, or the superintendent of the station of a railway, to enter into a contract with a surgeon to attend a passenger injured by an accident on such railway and that the railway company is not liable for services rendered to such passenger, on a contract so entered into, without evidence of express authority to its servant to employ the surgeon (Cox *v* Midland Counties Railway Co., 3 Ex. 268). One ground, however, of such decision was that, except in some very few cases, a company could only contract under seal, but since the time of the decision much more freedom in that respect has been accorded to companies. Therefore, perhaps, that decision might be held to be not good law at the present day. If an accident happens to a stage coach, by which a passenger's leg is broken, the coachman has no authority to bind his master by a contract

with a surgeon. The general manager of a railway company has, however, as incidental to his employment, authority to bind the company to pay for surgical attendance bestowed at his request on a servant of the company injured by an accident on its railway.

Infanticide and Live Birth.

In THE LANCET of May 23rd, p. 1507, reference was made to a private Member's Bill before the House of Commons having for its object the protection of infant life by making it a crime punishable with penal servitude for life to destroy the life of a child during birth and before the child shall have been fully born. The demand for such a measure is certainly supported by two recent inquests held by Dr. F. J. Waldo in the City and Southwark courts upon the bodies of infants, one of which was found under the seat of a railway carriage and the other beneath the flooring of a house in Southwark. In both cases the evidence plainly showed that the child had been born at the full term and disclosed no reason why death should have supervened. In one case it was evident that death had been caused by suffocation. It was impossible, however, in either case to show by evidence based upon post-mortem examination that either child had had that existence separate and independent of the mother which is necessary to constitute the crime of murder on the part of him who wilfully destroys the newly begun life. Consequently open verdicts were returned and had the mother of either child been ascertained and had she been apprehended no crime beyond that of concealment of birth could have been charged against her, with any expectation of her conviction. At the inquests referred to Dr. Waldo informed the juries of the state of the law, and stated that out of 256 cases in which coroner's juries had found that murder had been committed at the time of birth or soon after none had been found to be supported by the evidence necessary to secure conviction on that charge at the Old Bailey. He also mentioned that the report of the Commission on Capital Punishment, held in 1864–65, recommended that to inflict injury upon a child during its birth or within seven days after from which it subsequently died should be made an offence short of murder, and be punishable with penal servitude or imprisonment; and that no proof of the child having been completely born should be required, and that trial for concealment of birth should be upon a separate indictment. Dr. Waldo also was of the opinion that infanticide was on the increase and that the possibility of receiving severe punishment might act as a deterrent to prevent the cruel doing away with their offspring by mothers. Possibly the proposal referred to—namely, that the newly defined crime should consist in destroying the child's life during birth or within a few days from birth—may be a good one. Lord Robert Cecil's Bill, if it becomes law as it stands, may lead to doubt and disagreement on the part of a jury as to the moment of a child's death, and consequently as to the precise crime committed, which would be obviated by the introduction of a longer period during which the act constituting the offence might be performed. It is true that at present the killing of a child newly but fully born constitutes murder, but in fact such murders if brought home to the accused are rarely if ever followed by the carrying out of the capital sentence.

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

THE annual general meeting of the London and Counties Medical Protection Society was held at the office of the society, 31, Craven-street, Strand, London, on June 11th.

Dr. G. A. HERON, the chairman, proposed the motion receiving and adopting the annual report of the council and the balance-sheet. He said that the statement which appeared in the annual report that the society was the only one of its kind which paid the whole personal cost entailed by the successful or by the unsuccessful defence of its members was incorrect, because the Medical Defence Union paid the costs of actions in which it was concerned in exactly the same manner as the London and Counties Medical Protection Society. He explained that the mistake had occurred in consequence of a mis-statement of the facts in regard to the case of Southern *v.* Lynn Thomas and Skyrme which had appeared in the medical papers, in which it was said that the Medical Defence Union paid for defence, including counsel's fees, up to a limited amount. The words "up to a limited amount" had led to the error which they regretted extremely and the opportunity of the annual meeting was taken of drawing particular attention to it. A circular had been issued to all members of the society in regard to a scheme of raising the subscription so that members would be insured against the whole risk of adverse verdicts and costs. The reply from the members had been such that the council had decided not to move any further in the matter, since two-thirds of the members had not voted at all, though of those who did vote four-fifths were in favour of the scheme.

Mr. E. C. BENSLEY seconded the motion which, after it had received the support of several gentlemen, was carried unanimously.

A motion recommending the council to consider the raising of the annual subscription to £1, proposed by Dr. L. S. FORBES WINSLOW and seconded by Dr. W. G. DICKINSON, was carried by 10 votes to 1.

The annual report of the council contained an account of the satisfactory financial condition of the society. The surplus of £521 added to the funds of the society at the end of the year must be regarded as satisfactory in view of the fact that the expenditure for 1907 was the heaviest yet incurred by the society in any one year. It was also satisfactory to be able to point out that this unusually heavy expenditure was more than covered by the annual subscriptions alone and that all entrance fees and donations were carried over, as in every previous year, to the reserve funds. The necessary liability to heavy annual fluctuations in the expenditure of a society such as theirs was well illustrated by the cost of litigation in 1906 and 1907. In 1906 the society succeeded in recovering 63 per cent. of their expenditure on litigation from the other side; in 1907 the proportion of expenditure thus recovered amounted to only 7 per cent. The balance standing to the credit of the society at the end of 1907 was £3680. Apparently there was an increased tendency in recent years for people to claim compensation from their medical and dental advisers whenever the results of treatment (perhaps the most skilful and careful) were not as satisfactory as could be wished. Considerably more than 10 per cent. of the members made some application to the society during the year. A member having commenced county-court proceedings to recover his fees for medical attendance was met by a counter-claim for £50 on the ground of alleged negligence or want of skill. The case was accordingly taken up by the society on its member's behalf. The judge, in giving judgment for the plaintiff, said that the counter-claim was a monstrous one. He said that he spoke strongly because there were always base minds ready to entertain any insinuations, but, so far as his voice could help, he wished it to go forth that the plaintiff's treatment of the deceased person had been skilful and proper, and that there was not the slightest evidence to show that any one of the defendant's statements was justified. A member of the society, having expressed an opinion that his payment as medical officer to a slate club was too low, was summarily dismissed. An action for wrongful dismissal was brought by the society on the member's behalf and damages were awarded to him. A member threatened to take county-court proceedings to recover an account for professional services. The debtor thereupon wrote to him an abusive letter in which the doctor was characterised as a "rogue," a "tyrant," a "villin," and a "scamp," and the writer wound up with an assertion that he himself was an honest man. The member was advised that the letter was not actionable and was in any case mere vulgar abuse. In reply to complaints a member was informed that false statements made in evidence before a county court, followed by the sending of newspapers containing an account of the case to patients of the plaintiff doctor, did not afford ground for an action for slander. A member wrote calling attention to the advertisement of a new Medical Directory and objecting to its competing with a well-established and really authoritative work and to its throwing on medical men the trouble of filling in another form every year and paying the postage of it. He thought annoyance would arise from the omission of medical men's names from the new directory. In reply he was advised that if a medical man wished his name to appear in it he would fill in and return the form sent him, and that if he did not do so he could not complain if his name was not inserted. Whatever view he might take

as to the desirability of such a directory or of the terms of the circular issued to medical practitioners he had no real ground for complaint. Information concerning this society can be obtained from the general secretary, Dr. Hugh Woods, 31, Craven-street, Strand, W.C.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions have been received between June 6th and 12th by Mr. William Sheen, M.S. Lond., F.R.C.S. Eng. (2, St. Andrew's-crescent, Cardiff), honorary secretary to the fund. £17 13*s.* 6*d.* were received from the Westminster Division of the British Medical Association (per Mr. Harvey Hilliard). The subscribers are:—

Two Guineas from—
F. W. Pavy.

One Guinea from—
H. A. Des Voeux.
F. Durham.
H. Roxburgh Fuller.
C. B. Waggett.
E. Lloyd Williams.

One Pound from—
Inglis Parsons.

Half-a-Guinea from—
William Ewart.
L. Vernon-Jones.
F. P. Wightwick.

Ten Shillings from—
J. E. Thompson.
Rosa Turner.
G. Slight.

Five Shillings from—
W. P. S. Branson.
J. C. F. Nauman.
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Half-a-Crown from—
Margaret Alden.
F. J. Allan.
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G. K. S. Bigg.
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D. Eicum.
F. E. Fremantle.
Clement Godson.
W. R. Gould.
H. St. D. Griffiths.
A. S. Hayman.
Harvey Hilliard.
Spencer Hurlbutt.
G. W. Isaac.
F. J. McCann.
G. W. B. Marsh.
G. B. Messenger.
A. S. Morley.
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J. H. Tomlinson.
F. P. Trench.
C. L. Tuckey.
W. McC. Wanklyn.
B. H. Wedd.
A. E. C. Woodhouse.

Subscribers of Five Guineas.
Cardiff Medical Society, per W. S. Davies.
Sheffield Division B.M.A., Members per A. W. Forrest.

Subscribers of Three Pounds Fifteen Shillings.
Dumbarton and Argyll Division of the British Medical Association, per J. Ewing Hunter.

Subscribers of Three Pounds Five Shillings and Sixpence.
North Suffolk Division of the British Medical Association, per Wilson Tyson, the subscribers being:—
Dr. Bailey.
W. L. Bell.
W. Berry.
H. M. Evans.
H. P. Helsham.
D. H. Hutchinson.
Dr. James.
A. Marshall.
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Subscriber of Two Guineas.
W. Ll. Rhys, Aberdare.

Subscribers of One and a Half Guineas.
Cleveland Division of the British Medical Association, per W. S. Dickie. The subscribers are:—

One Guinea from—
James Donaldson, Middlesbrough.

Half a Guinea from—
H. Stonehouse, Middlesbrough.

Subscribers of One Pound Six Shillings.
Walthamstow Division of the British Medical Association, per A. P. Eldred. The subscribers are:—

Half-a-Guinea from—
A. Pollinger Eldred, Walthamstow.
Trevor Fowler, Epping.

Five Shillings from—
K. Douglas, Walthamstow.

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H. Meredith Richards, Croydon.

Subscribers of Half-a-Guinea.
Charles R. Watson, Tunbridge Wells.
L. G. Davies, Histon, Cambridge.

Subscriber of Ten Shillings.
Eldon Pratt, Henfield, Sussex.

Subscriber of Seven Shillings.
D. S. Ollenbach, Arnvankad, Nilgiri Hills, India.

Subscribers of Five Shillings.
Charles J. Hill Aitken, Barkley West, Cape Colony.
W. Stewart, Leith.
Warrington Infirmary.

Subscriber of Half-a-Crown.
Glasgow Southern Division of the British Medical Association, per John Stewart (additional subscription).

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF MEDICAL OFFICERS OF SANITARY AND EDUCATION AUTHORITIES.

The City of Westminster.—Dr. F. J. Allan reports that for 1907 the birth-rate of Westminster, duly corrected as regards births occurring in lying-in and other hospitals and calculated on the number of births per 1000 married, was the lowest in London, Hampstead being next. He refers to what appears to be a very useful arrangement made by the City of Westminster Health Society by means of which the society is furnished from time to time by the general and lying-in hospitals with a list of impending maternity cases. As the result of this information the visitors of the society have tendered advice at 401 houses prior to the commencement of the confinement and subsequently paid visits fortnightly, monthly, or quarterly, according to circumstances. These pre-natal visits are much to be commended and there can be no question that this plan of preventive medicine will undergo material development. In course of their work the visitors are brought in contact with mothers of different nationalities and with reference to the Italian element which, as all Londoners are aware, is especially predominant in Soho, it is stated that the members of that community are usually of a respectable class and come from Piedmont; they hope eventually to return to Italy. In London they live economically and, as a general rule, take in lodgers. The mothers keep their babies well and are an example to ourselves in the matter of pre-natal preparation. Cradles are always provided and breast-feeding is general. As regards the Soho Jews we are told that they come in the main from Poland and that their standard of living is a low one. They live in overcrowded conditions and keep their children in very hot rooms. Contrary to the viewpoint of the Italians, who hope to return to their native land, the Jews come to stay, their ambition being to rise to a better position. The children of the Jews are, we are told, spoiled by their parents who are devoted to them and they suffer more from too rich and highly spiced food than from actual want; suckling takes place for a longer period than is the case with English mothers. These comments on the part of the visitors are very interesting, but we should be glad to have the conclusions commented upon by Dr. Allan, more especially those relating to the Jews. Some instructive statistics concerning dwellers in block buildings in Westminster are furnished by Dr. Allan. The total population referred to is about 1150, the birth-rate for the last three years having been no less than 52·1, the death-rate 16·5 per 1000, and the infantile mortality-rate 127 per 1000 births. Probably the age-constitution of the population, as Dr. Allan suggests, accounts for the high birth-rate—perhaps the buildings being new ones and under the control of the council have attracted the young and recently married. The figures are, indeed, useful as an illustration of statistical fallacies. Curiously, the next paragraph in the report illustrates what may be regarded as, in fact, another statistical fallacy. There were 96 deaths during 1907 among the inmates of common lodging-houses and shelters in Westminster. Of these deaths 31 were from pulmonary tuberculosis and 31 from other respiratory diseases. It might be inferred from this that common lodging-houses are a cause of consumption, but the real explanation is probably that the tuberculous become inmates because they are already tuberculous. Good results have followed the prosecutions in the case of the use of boric

acid in foods, and Dr. Allan states that its use is now confined to articles comprising shrimps and pork. It is, however, somewhat disconcerting to read of 43 grains of boric acid in a pound of peeled shrimps, and 33·5 grains in a pound of potted turkey and ham. We believe that preservatives in potted shrimps are in no case necessary and that many of the Southport shrimpers use no preservatives. Sometimes, however, when the home supply runs short, shrimps are said to be imported from abroad, from Holland and Heligoland, and perhaps preservatives may then be found essential to keep the shrimps during transit. But it is all a question of the vendor—frequently a grocer—wishing to keep perishable produce longer than it should be kept, and a somewhat similar remark applies to preservatives in cream.

City of Coventry Education Committee.—In his third annual report to this committee Dr. E. H. Snell, the medical officer of health, points out that hitherto the medical inspection of school children in Coventry has been restricted to cases concerning which the attention of the medical officer had been called by the head teachers, whereas in the future all children will be medically inspected at least three times during their school career. The uncertainty of relying solely upon the selections of the teachers is well illustrated by the fact that during 1907 the number selected has varied from *nil* to 65. With reference to the subject of remedying defective sight the efforts made to secure spectacles by communication with the parents have been only partially successful. The parents of 1420 children were written to and information relating to 1157 was secured. Of these nothing had been done in 714 cases; in 253 cases spectacles had been provided; and in 190 cases "advice" was said to have been obtained. There are, Dr. Snell observes, at least 904 others in the case of whom no action has been taken and he asks the committee to consider the position which it must be conceded opens up many speculative social problems. Certainly this inaction of the parents speaks badly for Coventry—that is to say, if the degree or nature of the visual defect was such as seriously to inconvenience the children. We are by no means disposed to suggest that the cost of providing spectacles for all these children should fall upon the ratepayers and we should much prefer to see enforced throughout the country some form of insurance which might, and should, cover the provision of these necessities. Probably many of the parents are quietly awaiting charity or rate-provided glasses and we see no advantage in increasing this helplessness, although we should be quite willing that *partial* assistance should be given to those who manifest some desire to help themselves. As regards the sanitary condition of the Coventry schools Dr. Snell thinks that too little attention is paid to the cleanliness of the floors; they are, he suggests, only scrubbed during the holidays—i.e., four times a year. In his view, too, the minimum floor space prescribed for schools in this country (ten square feet) is too small. In America each child has 15 square feet. With reference to the attendance at school of children under five the committee has passed a resolution that in future no children under that age shall be admitted unless they would attain that age during the three months after the commencement of the school year.

County Borough of Blackburn Education Committee.—Dr. Alfred Greenwood gives an account in one section of his joint annual report of the sanitary improvements carried out in the schools during 1907 and a perusal of this indicates much activity in a most useful phase of school hygiene. During 1907 an assistant was appointed to aid Dr. Greenwood in his school work and as a result the children in two of the schools were carefully inspected. Of these schools one, Holy Trinity, is situated in one of the poorest quarters; the other, St. Gabriel's, is as regards locality almost rural in character. Some of the figures are a little difficult to reconcile but as regards development, cleanliness, and nutrition Dr. Greenwood states that cleanliness and nutrition go more or less hand in hand, and that, other things being equal, a clean child is generally a well nourished one. As regards teeth it is stated that in very few cases—not more than ten in all—were the teeth even brushed, notwithstanding which some of the children had beautifully white teeth. Some 88·7 per cent. of the boys in both schools had carious teeth. Daily brushing of the teeth should certainly be encouraged, altogether apart from the saying that "an army marches on its teeth." By way of encouraging the teaching of hygiene a course of 30 lectures on school hygiene was given by Dr. Greenwood to school teachers and others. As a result five of the candidates subsequently obtained a certificate of the Royal Sanitary Institute.

Borough of Macclesfield.—It has been decided on the recommendation of Mr. J. Hedley Marsh, the medical officer of health, that in order to carry out the duties under the Education Act four medical inspectors should be appointed to examine all the children in the elementary schools and to report to the medical officer of health who is to prepare a report for presentation to the local education authority. Four medical practitioners have been duly appointed at certain schools assigned to each, the fee to be paid being 2*s.* per case for each inspection. An interesting experiment is being made in Macclesfield with a view to the diminution of infantile mortality. It has been found that the number of deaths from premature birth in Macclesfield amounts to 3·4 per cent. of the total, this being a higher figure than in any of the other Cheshire towns. Moreover, Macclesfield has a larger proportion of married and widowed women in occupation than others living in this county and Mr. Marsh, although not attributing all the premature births to female labour, thinks that the fact that the mothers work within a few days of delivery must influence the issue. Having regard to these beliefs he suggests the enactment of a "Notification of Prospective Mothers Act," and although perhaps this is impracticable there is much to be said for the suggestion of more attention to pre-natal conditions. The Macclesfield Ladies' Public Health Society has carried the spirit of this suggestion into the domain of actual practice and any mother or prospective mother can now have a nourishing dinner for 1*d.* (*a*) during the months immediately preceding a birth; (*b*) during nine months after a birth if the infant is breast-fed; and (*c*) in special circumstances when the infant is bottle-fed. A similar practice has been in vogue for some years in certain parts of Paris, the only qualification for a meal being that of pregnancy.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7802 births and 3671 deaths were registered during the week ending June 13th. The annual rate of mortality in these towns, which had been so low as 12·6 and 12·7 per 1000 in the two preceding weeks, further fell to 11·8 in the week under notice. During the first 11 weeks of the current quarter the annual death-rate in these towns averaged only 14·2 per 1000, and in London during the same period it did not exceed 13·7. The lowest annual death-rates in the 76 towns during the week under notice were 3·9 in Hornsey, 5·4 in Northampton, 6·0 in King's Norton, and 6·6 in East Ham and in Willesden; the rates in the other towns ranged upwards to 19·4 in Bury, 20·5 in Rochdale, 20·8 in Tynemouth, and 23·5 in Stockton. The death-rate in London during the week did not exceed 11·0 The 3671 deaths in the 76 towns during the week showed a further decline of 285 from the declining numbers in recent weeks, and included 324 which were referred to the principal epidemic diseases, against 288 and 354 in the two preceding weeks; of these 324 deaths, 100 resulted from whooping-cough, 89 from measles, 63 from diarrhœa, 32 from diphtheria, 23 from scarlet fever, and 17 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases last week were equal to an annual rate of 1·0 per 1000 in the 76 towns, against 0·9 and 1·1 in the two preceding weeks; the rate from these diseases in London were also equal to 1·0 per 1000. No death from any of these epidemic diseases was registered last week in Sunderland, Huddersfield, Halifax, Swansea, Derby, or in 12 other smaller towns; the annual death-rates from these diseases ranged upwards, however, to 2·5 per 1000 in Aston Manor and in Rotherham, 2·6 in Croydon, 2·9 in Rochdale, and 4·9 in Stockton-on-Tees. The fatal cases of whooping-cough in the 76 towns, which had been 78 and 103 in the two preceding weeks, declined again to 100 in the week under notice; this disease caused the highest death-rates, 1·0 in Stockton-on-Tees, 1·3 in Coventry, 1·6 in Rotherham, and 1·7 in Wigan. The deaths from measles, which had been 72 and 84 in the two previous weeks, further rose last week to 89, the highest death-rates being 1·2 in West Ham, 1·3 in Croydon and in Birkenhead, 1·8 in Rochdale, and 3·9 in Stockton-on-Tees. The 63 deaths attributed to diarrhœa were fewer by four than the number in the previous week, and were proportionally most numerous in Middlesbrough and in Aston Manor. The 32 fatal cases

of diphtheria showed a decline of 13 from the number in the previous week, and caused the highest death-rate in Wolverhampton. Of the 23 deaths from scarlet fever, showing a considerable decline from recently weekly numbers, 13 occurred in London and its suburban districts, four in Liverpool, and three in Manchester and Salford. The 17 deaths referred to "fever" were five below the number returned in the previous week, and included two in Croydon and in Manchester. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had declined in the six preceding weeks from 2938 to 2648, had further fallen to 2600 on June 13th; 289 new cases were admitted to these hospitals during the week under notice, against 334 and 291 in the two preceding weeks. The deaths in London referred to pneumonia and to other diseases of the respiratory organs, which had steadily declined from 301 to 132 in the seven preceding weeks, further declined to 125 in the week under notice, and were 30 below the corrected number in the corresponding week of the five years 1903–07. Only two deaths were directly referred to influenza during the week in London, showing a further decline from the numbers in recent weeks. The causes of 39, or only 0·8 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 48 other smaller towns; six uncertified causes of death were, however, registered last week in Liverpool, five in Birmingham, and four in South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 15·5 and 14·3 per 1000 in the two preceding weeks, further declined to 13·2 in the week ending June 13th. During the first eleven weeks of the current quarter the annual death-rate in these eight towns averaged 16·7 per 1000, and exceeded by no less than 2·5 the mean rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 10·5 and 10·8 in Dundee and Aberdeen, to 14·0 in Glasgow and 16·2 in Paisley. The 404 deaths in the eight towns showed a further decline of 39 from the numbers in recent weeks, and included 42 which were referred to the principal epidemic diseases, against 54 and 30 in the two preceding weeks; of these 42 deaths, 12 resulted from diarrhœa, 11 from whooping-cough, ten from measles, six from diphtheria, two from "fever," and one from scarlet fever, but not one from small-pox. These 42 deaths were equal to an annual rate of 1·2 per 1000, the mean rate from the same diseases in the 76 English towns during the same week being 1·0. The 12 deaths attributed to diarrhœa considerably exceeded the number in the previous week, and included three in Glasgow, Dundee, and Paisley, and two in Aberdeen. Of the 11 fatal cases of whooping-cough five occurred in Glasgow, three in Aberdeen, and two in Edinburgh. The ten deaths from measles showed an increase of five upon the number in the previous week, and included four in Edinburgh, and two each in Glasgow, Aberdeen, and Paisley. Of the six deaths from diphtheria, three were returned in Glasgow and two in Paisley. The two deaths referred to fever, both certified as enteric, included one in Leith and one in Perth; and the fatal case of scarlet fever occurred in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 85 and 75 in the two preceding weeks, further declined last week to 51, and were 41 below the number returned in these towns in the corresponding week of last year. The causes of 17, or 3·7 per cent., of the deaths registered in the eight towns during the week under notice were not stated or not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 22·2, 15·9, and 16·5 per 1000 in the three preceding weeks, further rose to 19·2 in the week ending June 13th. During the first 11 weeks of the current quarter the death-rate in Dublin averaged 21·1 per 1000; the mean rate during the same period did not exceed 13·7 in London and 15·3 in Edinburgh. The 145 deaths of Dublin residents registered in the week under notice showed an increase of 20 upon the number returned in the previous week, and included six which were referred to the principal epidemic diseases, against six and nine in the two previous weeks. These six deaths were equal to an annual rate of 0·8 per 1000, the rate during the week from the same causes being 1·0 in London and in Edinburgh. Of the six deaths from these epidemic diseases in Dublin, three resulted from measles, two from whooping-cough, and one from scarlet fever, but not one from diphtheria, "fever," diarrhœa, or small-pox. The 145 deaths from all causes in the city during the week included 25 of infants under one year of age and 35 of persons aged upwards of 60 years; the deaths of elderly persons were again below the average. Two inquest cases and three deaths from violence were registered, and 61, or 42·1 per cent., of the deaths occurred in public institutions. The causes of ten, or 6·9 per cent., of the deaths registered during the week were not certified. The causes of all but one of the 1011 deaths in London during the week were duly certified, while in Edinburgh the proportion of uncertified causes of death was 5·5 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of Feb. 22nd, 1870, Fleet-Surgeon James Bradley has been placed on the retired list at his own request (dated June 13th, 1908).

The following appointments are notified:—Fleet-Surgeons: A. Maclean to the *Ocean;* J. H. Acheson to the *Agamemnon*, on commissioning. Staff-Surgeons: G. E. Macleod to the *Skirmisher;* S. H. Birt to the *Vivid*, additional, and to the *Indomitable*, on commissioning. Surgeons: W. E. Gribbell to the *Vivid* additional, and to the *Indomitable*, on commissioning; A. R. Davidson to Haslar Hospital; S. H. Vickery to the *Actæon;* R. Willan to the *President*, additional, for the *Maine;* J. H. Wright to the *Donegal;* C. R. M. Baker to the *Agamemnon*, on commissioning; and A. J. Wernet to the *Majestic*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Bernard L. Mills retires on retired pay (dated June 17th, 1908).

THE ROYAL ARMY MEDICAL CORPS (MILITIA).

On June 18th the Devonport Company, R.A.M.C. (Militia), assembled at the Military Hospital, Devonport, and the Portsmouth Company at Portsmouth for their annual training.

THE FIRST COMPLETE UNIT OF THE TERRITORIAL FORCE.

A return just published shows that the 1st South Midland Mounted Brigade, Field Ambulance, R.A.M.C., is the first unit of the Territorial Force to have recruited up to establishment.

THE UNIFORM OF THE TERRITORIAL FORCE.

A special Army Order has been issued containing the regulations in regard to the uniform of the Territorial Force. The only obligatory uniform for officers is service dress as authorised in the Dress Regulations for officers of the Regular Army. The provision of full dress is optional. Silver lace and white metal ornaments will be worn on all uniform and horse furniture by officers of the Territorial Force, with certain exceptions. Badges of rank will be similar to those of the Regular Army and will be worn in silver on gold shoulder cords, and in gold on silver shoulder cords. The letter T will be worn below badges of rank on all shoulder cords and shoulder straps. In service dress the T in bronze will be worn on the collar of the jacket below the collar badge. Units that desire for any special reason to obtain permission to wear gold lace and gilt ornaments must submit applications through the County Associations for consideration.

A temporary camp has been formed in the grounds of the Royal Naval Hospital, Haslar, for some 80 cases of mumps which have been removed from H.M.S. *Nelson*, the training-ship for stokers at Portsmouth.

Correspondence.

"Audi alteram partem."

THE EVIDENCE OF MEDICAL OFFICERS OF HEALTH IN QUESTIONS OF INSANITARY PROPERTY.

To the Editor of THE LANCET.

SIR,—Your Birmingham correspondent this week mentions the report of the housing committee in which the progress made in "the conversion of closed courts into open terraces" is especially referred to. Every sanitary reformer must be in sympathy with this most excellent work, and the achievements of the Birmingham housing committee in this direction are already a justifiable source of pride to the community and an example to other towns; at the same time cases occasionally occur in which zeal outruns discretion, and as I have been blamed recently for supporting a property owner in such a case against the Birmingham housing committee I hope that you will allow me to defend my position in your widely read columns, especially as the case has been made use of to attempt to prevent in future the giving of evidence on behalf of property owners by local medical officers of health.

In March last I was asked by a personal friend whom I have known well for years to look at a court in Birmingham of which he was owner which he had been called upon by the housing committee to open up by the demolition of two houses. Other improvements had been demanded, such as the provision of damp courses to walls, the repair of roofs, the substitution of w.c.'s for pan-closets, and the ventilation of bedrooms, all of which the owner was quite willing to do; it was the demolition of two houses to which he objected and he alleged that the court was particularly large, airy, and sunny, and that the pulling down of these two houses could not be said to be at all necessary. I inspected the houses and honestly my first impression was that some mistake must have been made; the court was indeed large, airy, and sunny, 25 feet wide at its narrowest part and 40 feet wide for about a third of its length, the houses up one side being but 18 feet high and with no closely surrounding buildings. I made a report to the owner, of which I inclose a copy, and I assured him that no court of law would compel the destruction of any of these houses; at the same time, wishing to do nothing objectionable, and remembering my own feelings when my sanitary authority proceeded against an owner for the purpose of closing insanitary houses and a neighbouring medical officer of health, without a word of warning to me, appeared and gave evidence diametrically opposed to mine, I wrote to Dr. Robertson, medical officer of health of Birmingham, told him what I had done, and that to my own knowledge the landlord was a man who was in every way scrupulous in the management of his property. I received no reply until three weeks later when the owner told me that proceedings had been taken to close the houses and at the same time Dr. Robertson acknowledged my letter with the remark that he was glad to hear the character of the landlord. In these circumstances I, together with a leading physician in Birmingham, gave evidence before the magistrates as to the habitability of the houses in question, with the result that a closing order was unanimously refused. The decision was inevitable in view of the character of the houses, which remain for anyone to see in proof of my contention.

I should not have troubled you with this quite commonplace incident if it had not been that the Birmingham housing committee have since written to the two district councils whose medical officer of health I am, complaining of my having appeared against them, which they characterise as an objectionable proceeding and as unnecessary in that other expert evidence can easily be procured by property owners. I do not see for the moment what other expert evidence is here suggested, and however objectionable the practice may be I think I may be excused for having assumed that it was customary, in the Midlands at any rate, for on two occasions in recent years when proceedings were taken by the councils whom I serve we were opposed each time by a neighbouring medical officer, with the result that in one case the district council were refused their application. If a rule is to be made that an acting medical officer of health is not to give evidence against a fellow medical officer of health I fancy few of us would object, but with all deference I would suggest that if made it should apply to the great men of the profession as well as to the humble country medical officer.

I am, Sir, yours faithfully,

Bromsgrove, June 8th, 1908. H. CAMERON KIDD.

DIFFERENTIATION OF CERTAIN GRAM-NEGATIVE COCCI OCCURRING IN CASES OF CEREBRO-SPINAL MENINGITIS BY THEIR MORPHOLOGY AND POWER OF GROWTH ON THE DRIGALSKI-CONRADI MEDIUM.

To the Editor of THE LANCET.

SIR,—During the Belfast epidemic (1907-08) of cerebro-spinal fever over 200 strains of meningococci have been examined in the Musgrave Pathological Laboratory. In addition to the Belfast strains we have examined cultures sent to us from Berlin, Hamburg, Edinburgh, Glasgow, and New York. We find that the organisms from these various centres are identical culturally and morphologically. In addition, we have had the opportunity (through the kindness of Dr. J. Graham Forbes, of the Hospital for Sick Children, Great Ormond-street, in sending cultures to our laboratory) of examining organisms from seven London cases of posterior basic-meningitis. All of these Great Ormond-street cocci were found by Houston and Rankin to differ from true meningococci in respect of their agglutinins and opsonins, though six of them were identical with the meningococcus in morphology and four of them also in cultural and fermentative characters.

In the table certain characters of some Gram-negative cocci are contrasted. + Indicates acid production in ascitic litmus bouillon containing the corresponding sugar. − Indicates absence of acid production in ascitic litmus bouillon containing the corresponding sugar.

Table.

Source of organism.	Glucose.	Levulose.	Galactose.	Maltose.	Saccharose.	Growth on the Drigalski medium at 37° C.	Growth on ascitic agar at 20° C.	Morphology.
50 strains of Belfast meningococci.	+	−	−	+	−	None.	None.	Similar to Weichselbaum's coccus.
Four Great Ormond-street cocci.	+	−	−	+	−	,,	,,	,, ,,
C. A Great Ormond-street coccus.	−	−	−	+	−	,,	,,	,, ,,
W. ,, ,,	−	−	−	−	−	,,	,,	,, ,,
W. A. ,, ,,	−	−	−	−	−	Good growth.	Good.	Stains uniformly
M. from a Belfast case.	−	−	−	−	−	,,	,,	,, ,,
B. ,, ,, ,,	−	−	−	−	−	,,	,,	,, ,,
Micrococcus catarrhalis of Pfeiffer (Kral).	−	−	−	−	−	None.	,,	Very similar to the meningococcus; more uniform in size and staining.

The Great Ormond-street specimen W. A. was isolated by Arkwright from the cerebro-spinal fluid of the same case from which W. was cultivated. It appears to belong to the same class as two isolated by me from the lumbar puncture fluid of two Belfast cases and is probably identical with one of them. These organisms in their absence of fermentative activity and in their growth at 20° C. resemble the micrococcus catarrhalis. The Great Ormond-street specimens W. and C., though variants from the typical meningococcus in their fermentative powers, in other respects closely resembled it. They did not grow at 20° C.

Growth on the Drigalski-Conradi medium.—All the Gram-negative cocci which we have met with in cases of cerebro-spinal meningitis fail to grow on this medium. To this rule W. A., M., and B. are exceptions, as they grow well on it.

Morphology.—Typical meningococci are indistinguishable in shape and size from the gonococcus—that is, diplococci whose apposed surfaces are flattened or slightly concave. Moreover, there are numerous isolated cocci smaller than the gonococcoid forms that are spherical in shape like staphylococci. The older the culture the more numerous are these isolated cocci, the younger the culture the more abundant are the gonococcoid forms, but even after four or five days' growth there are also present the typical diplococcal forms with their flattened apposed surfaces. In the films numerous feebly staining degenerate forms are always present and among these larger intensely staining diplococci are scattered. There is no tendency whatever to grow in chains but rather to tetrad formation.

Now the specimens W. A., B., and M. differ from the others not only in their power of growth on the Drigalski medium but also in their morphology. These three show no tendency to tetrad formation but rather to formation of short chains of four or six individuals, though the diplococcal is the commonest arrangement. Moreover, the organisms stain well, there being no evidence of autolysis. In cultures on both solid and fluid media among the diplococci short bacillary forms and even unsegmented uniformly staining threads 20μ in length are frequently seen. It is quite certain that these bacillary forms and threads are not contaminations but represent variant forms of the organism. Specimen B., when growing in bouillon, agar, or ascitic agar, had the bacillary form to such a marked extent that under the microscope a film looked like that of the bacillus coli communis; when growing on the Drigalski-Conradi medium, however, the morphology was very similar to that of a true meningococcus, bacillary forms being absent.

In a former paper[1] I pointed out that on the Drigalski-Conradi medium a Gram-positive diplococcus isolated from a sporadic case of cerebro-spinal meningitis assumed a bacillary form. In the present instance we have the reverse of that, for here a Gram-negative organism is found to have a diplococcal appearance on the Drigalski medium, whilst on agar the bacillary form predominates. A culture of Pfeiffer's micrococcus catarrhalis obtained from Kral was found to always maintain the coccal form and to be incapable of growth on the Drigalski-Conradi medium.

We conclude, then, that in the lumbar puncture fluid of certain cases of cerebro-spinal meningitis Gram-negative diplococci may be found which differ from Weichselbaum's and Still's cocci in respect of their morphology and capacity for growth on the Drigalski-Conradi medium. It may be that certain abnormal appearances presented by meningococci, such as growth in short chains which competent observers claim to have seen, may have been due to the presence of this coccus in the cultures.

I am, Sir, yours faithfully,

W. JAMES WILSON, B.A., M.D. R.U.I., D.P.H. Cantab.,
Riddel Demonstrator in Pathology and Bacteriology; Joint Lecturer on Sanitary Science, Queen's College, Belfast.
Musgrave Pathological Laboratory, June 4th, 1908.

THE MEMORIAL TO THE LATE PROFESSOR ANNANDALE.

To the Editor of THE LANCET.

SIR,—A reference to the memorial to the late Professor Annandale was forwarded to you for publication in April. In response to the appeal made for the necessary funds a sum of £231 15*s.* has already been subscribed. The committee entrusted to carry out the scheme aim at raising a sum of not less than £400. There remains, therefore, a sum of £168 5*s.* still to be found. As it is impossible to communicate directly with all the numerous friends and former pupils of the late Professor Annandale perhaps you will kindly publish this letter in your columns. Subscriptions may be forwarded to me at 13, Rutland-square, Edinburgh. The subscription list will close on July 31st.

I am, Sir, yours faithfully,

H. M. D. WATSON,
Secretary and treasurer to the committee.
Rutland-square, Edinburgh, June 12th, 1908.

[1] Darling and Wilson: Brit. Med. Jour., Feb. 23rd, 1907.

THE NEEDS OF LONDON MEDICAL STUDENTS.

To the Editor of THE LANCET.

SIR,—Now and then attention is invited to the disadvantage at which the London student is placed through not being able to proceed ordinarily to a degree in medicine at the close of his curriculum. It is contended that in this matter he is less well circumstanced than the students in the provinces. No doubt this is true and a reasonable cause of complaint. But another, and I venture to think the greatest, disadvantage to the London student lies in the fact that there is no degree or diploma open to him exclusively which will mark him at once *alumnus* of one of the greatest, if not the greatest, of the schools of medicine. This circumstance is, moreover, derogatory not only to the student but to the school also, for it does not admit of the London school being shown to possess an inherent individuality, atmosphere and tradition, proper to itself alone. It cannot be denied that the London school does possess these qualities, and that it exercises a powerful influence on medicine throughout the world; it is therefore only fitting that means should exist which will enable that influence to be readily traced to its source, and those to be identified with the school who have had the advantage of its teaching.

Since the existing University in London does not pertain solely to the metropolis but also to the provinces, its degrees do not signalise unequivocally the teaching and traditions of the metropolitan schools. The diplomas granted by other bodies centred in London, though of the highest intrinsic value in themselves, do not indicate the school and circumstances of a student's training. The means best adapted to reach the end in view is to obtain for London what most of the great provincial towns already possess—namely, a local University, which shall set, patent to all, a hall-mark on the men trained, taught, and examined by itself. It is not forgotten that several years ago such an attempt, unsuccessful unfortunately, was made. It is hard to believe that it is impossible to establish some means which will accomplish the object desired, or that the need is not regarded as pressing. The man who has undergone his training in the metropolis and settled in the provinces can scarcely be unaware of the urgency of the case.

I am, Sir, yours faithfully,

June 15th, 1908. MILLIARIUM AUREUM.

*** The existing University of London, as at present reconstituted, has a distinct mandate to meet the difficulties referred to by our correspondent, but as yet the University has made no move whatever in the desired direction. The institution of a local University of one faculty only would be a retrograde step. Our correspondent is referred to the letters which appeared in our columns last year elicited by a letter from Sir William Gowers published on Nov. 2nd, 1907. —ED. L.

THE GERMAN SURGICAL CONGRESS.

(FROM OUR BERLIN CORRESPONDENT.)

(Concluded from p. 1722.)

Operations on the Chest.

Dr. BRAUER (Marburg) reported that he had produced artificial pneumothorax in the treatment of certain diseases of the lung and that it had been successful in 45 out of 60 patients. The method was contra-indicated in recently developed diseases such as broncho-pneumonia, but it was beneficial in bronchiectasis, the enormous quantity of fœtid discharge decreasing as soon as the pneumothorax was produced. This was especially the case in bronchiectasis of recent date, whilst cases of long standing with rigid walls were less favourable. The discharge, however, increased again when the lung expanded, but became more mucous and less fœtid. The operation was also performed for pulmonary gangrene and in severe cases of pulmonary tuberculosis, especially after an exacerbation. The success of the method depended on the immobilising of the lung and the retardation of the circulation of the lymph, by which the absorption of toxins was hindered. In tuberculosis the dyspnœa was relieved, the elastic fibres and the tubercle bacilli disappearing from the sputum. In one instance a commencing hæmoptysis was cut

short by the artificial pneumothorax. In a number of cases no improvement took place. The pneumothorax was maintained as a rule for a period of half a year or three-quarters of a year, after which on re-expansion of the lung the diseased portion was found to have become sclerosed and dry.

Professor KÜTTNER (Breslau) said that of 18 operations on the thorax or its contents he had used increased air pressure in nine cases and reduced air pressure in nine cases. He was of opinion that both of these methods constituted an advance in practical surgery. From a physiological point of view both of them were of equal value, but according to his personal experience the use of increased pressure was the more agreeable of the two, because in operations under reduced pressure the anæsthetist was separated from the operating surgeon, so that communication between them was difficult. The cases operated on by Professor Küttner were enchondroma of the ribs, gunshot wounds of the pleura, gunshot wounds of the lung with severe hæmorrhage, bronchiectasis, cancer of the lung, and cancer of the thoracic portion of the œsophagus.

Professor FRIEDRICH (Marburg) said that in unilateral pulmonary tuberculosis of the lungs he had removed one side of the thorax from the second to the tenth rib. He had operated twice on the left and once on the right side. He used local anæsthesia after a previous injection of morphine. It was essential that the operation should be finished in a short time and he had succeeded in performing it in 30 minutes. The object of the operation was to immobilise the diseased lung and to produce a shrivelling of the tissues. In every one of the three cases a marked improvement occurred, the pyrexia diminishing and the patient's weight increasing. Cardiac trouble, however, occurred immediately after the operation, probably as a result of the interference with the pulmonary circulation produced by the immobilisation of one lung. These cardiac troubles continued for two days. It was remarkable that the daily amount of sputum decreased from 150 or 200 cubic centimetres to five or ten cubic centimetres daily. In one instance a pulmonary cavity extended so far as to perforate the skin and eventually healed up. Professor Friedrich also showed the dead bodies of several dogs from which he had removed one lung entirely. The vacant space thus created was filled by the heart, by the lung of the other side which had undergone compensatory enlargement, and by the diaphragm rising upwards.

Professor PERTHES (Leipsic) said that he had operated on a chronic abscess of the lung which had existed for five years and was accompanied by bronchorrhœa and bronchial fistula. The operation was performed in two stages, the first of these being pneumotomia and the second being enucleation of the whole abscess, in the same manner as a tumour. The cavity which was left and the aperture of the bronchi were then covered by a cutaneo-muscular flap which united without difficulty.

Professor KÖNIG (Altona) recommended in cases of emphysema of the skin after fractures of the ribs to perform thoracotomy, to draw the compressed lung forward, to suture the injured edge of the lung, and to apply a plug. In one case operated on in this way the lung remained in an expanded state.

Actinomycosis.

Dr. FÖDERL (Vienna) said that he had successfully treated six cases of actinomycosis by systematic injections of cacodylate of sodium into the gluteal region; the local treatment consisted in the making of punctures and incisions.

Professor SCHLANGE (Hanover) said that actinomycosis had a tendency to spontaneous recovery and might be treated successfully by incisions without internal medication.

Abdominal Operations.

Professor ROVSING (Copenhagen) reported that he had introduced a cystoscope through a small aperture made in the stomach after a laparotomy. The stomach was then fully inflated with air and by diaphanoscopy differences of colour, small hæmorrhages, and other lesions could be observed. By using a larger cystoscope a greater area of the stomach became visible and Professor Rovsing was able to see gastritic conditions of the stomach, ulcers, and cancer. In certain morbid conditions presenting the clinical appearance of ulcers it was found by diaphanoscopy that no ulcer was present but that the symptoms were caused by gastroptosis. The cystoscope was introduced also into the duodenum and into the œsophagus. Professor Rovsing had used this method in 25 cases and immediately afterwards performed resection of the pylorus in five cases, gastro-enterostomy in 17 cases, and gastropexy in three cases.

Dr. NEUHAUS (Berlin) said that he had examined 15 cases of gastro enterostomy after the operation and had found that bile and pancreatic juice were from the very first discharged into the stomach without any harm to the patient. The normal state was re-established in all cases except one.

Professor CREDÉ (Dresden) recommended in the performance of gastro-enterostomy that Paquelin's thermo-cautery should be applied to the walls of the stomach and of the intestine as far as the mucosa, after which the orifices should be sutured. By the application of the thermo-cautery a sero-fibrinous discharge was produced which favoured the adhesion of the viscera. On the fourth or fifth day the cauterised portion became perforated so that the communication between the stomach and the intestine was restored.

Dr. MIDDELDORPF (Hirschberg) showed a girl from whom he had removed by gastrostomy 1620 nails, iron clasps, pieces of wire, &c., of a total weight of two pounds. On the first examination a large moveable mass which yielded a crackling sensation like a lump of snow was found in the hypochondriac region. The patient was emaciated and she vomited now and then, but her appetite was good. The diagnosis was, of course, not made previously to the operation. After the removal of the foreign bodies the girl, who was obviously hysterical, made a quick recovery.

Professor BRAUN (Göttingen) said that he had observed peculiar growths on the intestines which passed into the mesentery and in all respects presented the appearance of carcinoma. Others have made the same observation and have removed these growths which on microscopical examination proved to be not carcinomatous but products of chronic inflammation. He mentioned the case of a patient in whom he had made the diagnosis of cancer of the intestines and had recommended an operation which was declined by the patient. After several years he was informed that the patient was still alive and in perfect health. Possibly these growths were produced by a thrombosis of a mesenteric vein.

Dr. SCHLOFFER (Innsbruck) said that in four cases he had observed in the abdominal walls after herniotomy tumours due to chronic inflammation. They were entirely separated from their surroundings and were of the size of a fist. The patients' temperature was not raised, so that a malignant growth might have been suspected. After the application of hot compresses the growth became of a soft consistence and healed up after being incised. In three cases silk sutures were discharged from the wound.

Dr. GRAFF (Bonn) reported that he had removed the spleen in a child aged 15 months for pseudoleukæmia. The child was very weak, the leucocytes were somewhat increased, while the erythrocytes had decreased to 1,800,000 per cubic millimetre; the proportion of hæmoglobin was 45 per cent. The weight of the spleen was more than a pound. The success of the operation was remarkable and the patient's weight doubled itself after nine months.

Dr. WOLFF (Hermannswerder) showed a child on whom he had performed a similar operation two years ago and who was now quite well.

Dr. BUNGE (Bonn) spoke on the subject of spastic occlusion of the intestine after an operation. The first patient whose case was described was a woman who on the day after a gynæcological operation suffered from colic and paresis of the intestines. Notwithstanding the administration of castor oil and enemata no fæces were discharged and the abdomen became tympanitic. Laparotomy was then performed; the small intestines proved to be enormously distended, the cæcum was relaxed, but the colon was in a state of intense spastic contraction. Ileostomy was then performed and a great quantity of liquid fæces were discharged. The patient recovered. In a second case showing the same symptoms an operation was performed on the sixth day but the patient died.

In the discussion Professor BARTH (Danzig) said that he had seen the same symptoms in a woman on whom colporrhaphia had been performed five days previously. At the post-mortem examination a tænia was found in the cæcum.

Professor KÖRTE (Berlin) said that he had seen a similar state in hysterical women without a previous operation.

Dr. MÜLLER (Rostock) said that in his opinion the symptoms were possibly due to slight peritonitis.

Operations on the Genito-urinary Organs.

Professor WILMS (Basle) described a new Method of Performing Prostatectomy. He made the incision parallel to the descending branch of the pubic bone. He then drew the bulbo-cavernous muscle aside and between it and the ischio-cavernous muscle he reached the capsule of the prostate gland very easily. He said that the prostate might be enucleated after division of the capsule just as well as in the transvesical way; moreover, the method allowed drainage in the downward direction, the rectum was not touched, and injuries of other parts were avoided.

Professor PELS-LEUSDEN (Berlin) spoke on the subject of Primary Sutures in Laceration of the Urethra. The method advised by Professor König and recommended by himself consisted in suturing both ends of the lacerated urethra together in the superior circumference, whilst the inferior circumference was dilated by an incision in a longitudinal direction. The wound must be left open, no catheter was introduced, and there was no plugging. The wounds healed very quickly without leaving a fistula.

Professor ZUCKERKANDL (Vienna) read a paper on the Diagnosis of, and the Operations for, Renal Calculi. Describing their form he said that by means of radiography calculi from renal cavities (hydronephrosis or abscesses) had the form of a ball or a star, calculi of the calyces that of a coral, while calculi in the pelvis or the beginning of the ureter were of a triangular form. Of the three operative methods—namely, nephrectomy, pyelolithotomy, and nephrolithotomy—the last was the most used. Nephrolithotomy was, however, often followed by contraction and secondary hæmorrhage, which eventually necessitated removal. Professor Zuckerkandl was, therefore, inclined to prefer pyelolithotomy and has even removed large calculi in this way. It was an advantage that palpation of the wound for diagnostic purposes was easy and that the walls of the pelvis of the kidney had a decided tendency to heal. He made an incision on the border between the pelvis and the renal tissue, employed bimanual palpation, and having removed the calculi introduced a drainage tube, the renal wound being closed by catgut sutures. The operation was contra-indicated only when the calculi had the form of coral.

Dr. LÖWENHARDT (Breslau) said that he had once introduced a cystoscope through a renal fistula and had a good view of the pelvis and even of the calyces.

Dislocation of the Shoulder-joint.

Professor KÜTTNER said that after dislocation of the shoulder-joint the function of the joint remained unsatisfactory in the great majority of instances. Out of 54 cases the usefulness of the limb was completely restored in only seven cases, while in 14 cases the mobility was good but the strength of the arm had decreased. In nearly 50 per cent. the patients were unable to raise the arm over the horizontal line. Paralysis of the brachial plexus happened in two cases, the dislocation was repeated in two cases, and in one it became converted into habitual dislocation. Arthritis deformans was sometimes the sequel of habitual dislocation. It was remarkable that the severity of the dislocation was often disproportionate to the sequelæ and *vice versâ*. Professor Küttner had in every case used fixation for a week with subsequent orthopædic treatment for two or three months. These undesirable sequelæ of dislocation of the shoulder were not in agreement with the general opinion that this injury was usually recovered from without permanent impairment of the use of the arm.

OLD EPSOMIAN CLUB TRIENNIAL DINNER.—It has been arranged to hold the triennial dinner of the Club at Epsom College on Tuesday, July 7th. The cricket match against Surrey Club and Ground will be in progress. The head-master and Mrs. Smith Pearce have asked the guests to tea, at about 4.30 P.M., and the council will entertain them to dinner at 7, to be followed by chapel at 8.45. There are trains back to Waterloo at 9.36 and to Victoria and London Bridge at 9.25. Mr. Edred M. Corner, 37, Harley-street, London, honorary secretary to the dinner, writes as follows: "Owing to the accommodation the number of those dining must be limited to 50. All members intending to dine must send me notice before *Thursday, June 25th*. If the number of those desirous of dining exceeds 50 a ballot must be held, in which case notice of the result will be sent to all who have signified their desire to come."

THE HEDJAZ RAILWAY AND DISEASE.

(BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

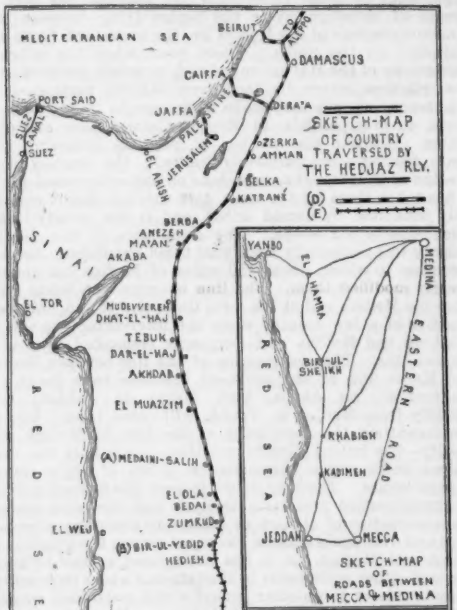
DURING the past two or three months an epidemiological experiment of great importance and interest has been in course of development in the region lying between the Arabian province of the Hedjaz on the south and Syria and Palestine on the north. Every year, when the religious ceremonies of the Haj are completed, a certain proportion of the pilgrims return by land from Medina northwards to Damascus, whence they make their way to their homes in Syria, in Mesopotamia, in Russian Central Asia, and elsewhere. Hitherto the number of pilgrims following this route has been comparatively limited; the journey from Medina to Damascus has been done on foot or on camel-back; it has taken them for the most part through desert country only inhabited by nomad tribes, and it has usually lasted some five or six weeks. The completion of the Hedjaz railway will profoundly modify all these conditions; its construction to within about 150 miles of Medina has already greatly modified them. The line is, moreover, being built from the Medina end at the same time, and it can only be a question of a few months when the intervening gap will be filled up and Medina and Damascus connected by a continuous line. The construction of the line between Medina and Mecca and of the proposed branches from Ma'an (or Mudevvereh) to Akaba, from Mecca to Jeddah, and possibly from Medina to Yanbo, will come later; but in the meantime the completion of the line to Medina will modify—has indeed already modified—essentially the conditions under which this northern group of hajjis return to their homes. The long desert journey has hitherto proved an almost certain protection to Syria and the north against the introduction of cholera or plague by returning pilgrims. Over and over again cholera has raged among the pilgrims in Mecca and Medina, yet it has never been carried by them overland either northwards by the caravans above referred to, or eastwards by those other groups which make their way by desert routes across northern Arabia to Mesopotamia and Irak-Arabi. Infection, in fact, dies out on a long desert journey. But when a railway journey of a few days comes to be substituted for the desert journey it is obvious that the risk of the carriage of infection must be enormously increased.

In the present year the epidemiological experiment in question has only been of a partial character. The desert journey between Mecca and Medina and again that between Medina and the head of the line have not been altogether without influence in diminishing the risk. Fortunately the cholera epidemic in Medina came to an end as early as Jan. 15th. The principal caravan, the *Mahmel* or Holy Caravan, did not leave Mecca until Feb. 1st, and only arrived in Medina on Feb. 12th. It had apparently had no cases of cholera on the way. The smaller caravans also appear to have arrived at Medina without traces of infection among them. In the meantime, however, cholera had been carried by bedouin from Medina to the region lying between that town and the head of the line, and to places along the line as far north as El Ola. More particularly troops employed on the line at Hedieh and further south suffered from the disease. Apparently the *Mahmel* caravan and others became re-infected when passing through this region and a considerable number of cases of cholera occurred among them in the quarantine station at Medaini-Salih. The details of these occurrences have been set forth in my preceding letters and it is therefore unnecessary to repeat them here.

The accompanying sketch-map of the Hedjaz Railway shows not only the geographical relations of the line but also the position of the points selected for the application of measures intended to prevent the carriage of cholera by persons using the line. The inset map shows the principal desert routes between Medina, Mecca, Jeddah, and Yanbo.

In discussing the precautionary measures applied in these regions during the present Haj, it must be borne in mind that these measures are not of a permanent character; they were devised to meet an immediate danger and appear to have attained that end; but the permanent solution of the problem of sanitary defence of the Hedjaz Railway has yet to be found. Like all other questions of the kind, where foreign subjects are concerned, it will have to be the subject of a fresh *entente* between the Turkish Government and

the other Powers interested. The result of this year's experiment will, no doubt, prove of great value in determining the nature of the permanent measures to be applied and more particularly as to the position of the principal stations where such measures will be applied. In the present instance Medaini-Salih was chosen as the site for the pilgrims' quarantine station and Bir-ul-jedid as that for the quarantining of ordinary



To avoid overcrowding the map two names of places on the railway between Ma'an and Mudervvereh have been omitted. A, Medaini-Salih is the pilgrims' quarantine station. B, Bir-ul-yedid will be the passengers' quarantine station. C, Bir-Osman is the pilgrims' halting place. D, Completed line, E, Line in course of construction.

passengers. The position of these two points is shown in the accompanying map. Pilgrim caravans arriving near Medina from Mecca were made to camp at Bir-Osman, a short distance from the first-named town; those who wished to enter Medina and visit the tomb of the Prophet were allowed to do so on foot and sent back at once to the camp at Bir-Osman. The caravans have always broken their journey at Medina, needing rest after their march from Mecca. This year they were compelled to rest at Bir-Osman. After a stay there of not more than five days they continued their march to the head of the line, which has apparently been at Zumrud during most of the period of the returning Haj. Thence they were carried by train to Medaini-Salih, where they were detrained and subjected to ten days' quarantine in the improvised lazaret there, together with medical inspection and disinfection of their clothes and effects. The *Mahmel* caravan arrived there on Feb. 24th and other caravans continued to arrive until towards the end of March. The exact number of pilgrims passing through this "lazaret" is not yet known; probably it exceeds 12,000 and may perhaps prove to have been nearer 20,000. The *Mahmel* caravan left there on March 6th and others have left at intervals since.

The so-called "lazaret" at Medaini-Salih was of necessity of an improvised character. It was composed of ten "cordons," each consisting of a plot of ground 100 metres square and surrounded by a barrier composed of a double cord stretched between posts. A space of eight metres was left between adjoining cordons. There is said to be a good water-supply at this place from springs, and pipes were laid down to conduct the water to the camp. The *Mahmel* and other caravans arrived here suffering terribly from thirst, and the pilgrims are described as throwing themselves on the water-vessels, many of which were upset in the struggle. However, there seems to have been no lack of water in the camp, and the fact that Medaini-Salih has such a good water-supply would seem to indicate it as a suitable site for the permanent pilgrims' quarantine station on this part of the line. The name Medaini-Salih, it may be added, means "the Cities of the Prophet Salih"; an alternative name is Hedjr, which seems to represent the Egra of Ptolemy. According to tradition it is an old Jewish town. It is described as "a rock town similar to Petra, rich in monuments cut into the rock, with Nabathaean and Himyaritic inscriptions. Spring water is found. Bedouin of the tribes El Fakir and Beda live here in 300 tents."[1]

After completing their quarantine in the lazaret of Medaini-Salih the pilgrims were carried by special trains to Damascus. There they were subjected to medical inspection on arrival. The majority dispersed in various directions from Damascus. Those destined for places in Syria were subjected, as far as practicable, to five days' medical surveillance in their homes. Those intending to reach the coast and continue their journey by sea were conducted across Damascus and put in trains for Beirût. Pilgrims were not permitted to embark in any other port than Beirût, and with this object none were allowed to leave the train at the Deraa junction (on the Hedjaz line), where the branch line to Caiffa begins, and shipping companies were warned that if they carried pilgrims from other ports than Beirût they would be liable to additional quarantine measures themselves. At Beirût the pilgrims were met and conducted to the lazaret there, where they underwent a three days' quarantine, with disinfection of their clothes and effects. Ships carrying these pilgrims from Beirût to other Turkish ports are subject to medical inspection on arrival and (those coming to Constantinople) also at the Dardanelles. It is satisfactory that up to the time of writing, when the bulk of the pilgrims have already reached Damascus and dispersed thence to their respective homes, no trace of cholera has appeared among them after leaving the lazaret of Medaini-Salih. How far this happy result is to be ascribed to the measures above described, or how far it is due to a natural decline in the infectivity of the disease or to other causes, it is at present impossible to say. It is certain that the lazaret of Medaini-Salih has for the present year been of a very primitive and improvised character; it possessed no steam disinfecting stoves and only chemical disinfection could be employed. It is, moreover, reported from Damascus that a certain number of pilgrims escaped quarantine altogether. If so, it is probable that they returned to Damascus, not by rail but on foot or on camel-back, and that, if the cholera infection existed among them, it had time to die out before they reached Damascus.

As described in an earlier letter, the measures applied this year were devised by the Board of Health here, in consultation with the Hedjaz Railway Commission. They have been executed by officials and employees of the board in conjunction with a special medical mission sent by the Turkish Government, under the presidency of Dr. Selami Pasha. The expenses have been met (it is not yet known whether they will have been covered) by applying in the Medaini-Salih lazaret the same quarantine tariff that is applied, under international agreement, in the maritime lazarets of the Turkish Empire. All these arrangements were purely provisional and experimental for the present Haj only. Any permanent arrangement must, as already stated, form the subject of a fresh understanding between the Porte and the Powers. The question is now being considered by the foreign missions here, with the object of arriving at a set of proposals acceptable to all the parties concerned. The suggestion that an international conference should be held to deal with the matter has not yet reached the stage of a definite proposal. Should such a conference be held it could lead to no useful results unless the measures which it proposed were acceptable to, and definitely accepted by, the Turkish Government. Turkey, it should be borne in mind, has invariably refused to accept the International Sanitary Conventions drawn up at Venice, Paris, and elsewhere. It would serve but little purpose to add another excellent scheme on paper to those already rejected by Turkey. It is more than probable that, in the matter of the sanitary

[1] Die Hedschasbahn, by General Auler Pasha. Gotha: Justus Perthes. 1906. It is regrettable that this valuable treatise has not been published in an English version.

control of the Hedjaz line, the best (perhaps the only) method of attaining the desired end will be by bringing pressure to bear on the Turkish Government through the existing diplomatic channels and inducing it to accept a carefully thought out scheme, drawn up by persons intimately acquainted not only with the details of the problem to be solved but also with the susceptibilities of the Government in question.

Constantinople.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Appointment of Public Vaccinators.

THE long delay which has occurred in the appointment of public vaccinators for the city has been a source of very considerable inconvenience to the students of the University who have been waiting to obtain instruction in vaccination before presenting themselves for the final examination. Presumably, however, the difficulty will be speedily removed, for the guardians have at last made permanent appointments and have selected Dr. Craig, Dr. W. H. Line, Mr. J. K. Syms, and Dr. Bruges to fill the four posts. One of these gentlemen will no doubt be authorised to give instruction and the students will not need to migrate to other towns.

The Health of Handsworth.

The annual report of Dr. R. A. Lyster, the medical officer of health of Handsworth, is interesting in the first place because it is probably the last annual report which Dr. Lyster will make on the district, for he has been recently appointed medical officer of Hampshire, and secondly because it contains some caustic remarks upon subjects not frequently touched upon in reports of this kind. It appears from the report that the general health of the district was good. The birth-rate was 21·9 per 1000, as contrasted with 22·6 in the previous year, and the general death-rate was 10·0, as contrasted with 11·1 in 1906. The infantile mortality rate was 100 per 1000, showing a reduction of 20 per 1000 when compared with the rate in 1906. Dr. Lyster admits that the mortality returns are better than in previous years, but he obviously thinks that they might be easily still further reduced, particularly the infantile rate, which he thinks is not lower because of the ignorance of the people, and he scathingly remarks that the application of compulsory education for a period of 30 years has failed to raise the intelligence of parents to any great extent. He attributes this failure to the neglect of essentials in the educational system and to the crowding of the time tables with unessential subjects which exert no useful influence on the development of the intelligence of the children. Many people will probably be inclined to agree with this indictment and those who know Handsworth will also agree with him that the jerry builder is laying in that district the foundations of slums which will be the source of considerable trouble in the future unless the tendency is counteracted by the local authorities acquiring and applying additional powers. When Dr. Lyster touches upon the relationship of the health department to the Poor-law department he is on dangerous ground, but there can be little doubt that much good might result if the two departments could work more harmoniously together than is often the case.

The late Dr. E. Rickards.

By the death of Dr. Rickards not only the medical profession but also the whole of Birmingham and the surrounding district sustains a serious loss, for he was one of the members of a generation which is all too rapidly passing away and taking with it an open, generous, loyal, and friendly spirit which characterised it and which has worked so much good for the city and district.

The Sutton Coldfield Cottage Hospital.

Through the generosity of Colonel J. H. Wilkinson Sutton Coldfield now possesses a cottage hospital which will supplement the work of the nursing home and give an opportunity for the treatment of serious cases which hitherto have had to be taken to the Birmingham hospitals. The nursing home has existed for some years and has been maintained by offertories from places of worship, by subscriptions, and by donations. It has done a very large amount of useful work but it obviously could not undertake the care of many urgent cases of accident and serious disease which required prompt treatment, hence the necessity for a local hospital which has been provided by Colonel Wilkinson's gift. The hospital has been built on land adjoining the nursing home, which is situated on the Birmingham road at Maney. It comprises a waiting hall, a room for the treatment of casualty cases, two wards each containing four beds, a single ward for paying patients, an operating theatre, and apartments for nurses. The mortuary is in a separate building and everything has been arranged upon thoroughly up-to-date principles. There is, of course, every probability that the accommodation will eventually have to be increased as the town grows, and bearing this eventuality in mind the building has been so arranged that the roof can be raised and another floor added as soon as the necessity arises. All that is necessary now is that the inhabitants of Sutton Coldfield shall provide an income of at least £400 a year to meet the working expenses.

June 16th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Chancellorship of the University of Glasgow.

THE Earl of Rosebery was last week installed Chancellor of the University of Glasgow. This is a comparatively rare event and naturally great interest was aroused in it. The installation ceremony in the Bute Hall was followed by a luncheon in the Randolph Hall and later in the afternoon a reception was held in the University grounds. The occasion was further marked by the bestowal of the honorary degree of LL.D. on the Duke of Argyle, the Earl of Elgin, and Lord Newlands.

Ear, Nose, and Throat Hospital, Glasgow.

The annual report of this hospital, which has just been issued, shows that during the last year there has been an average of 43 patients seen by the medical staff on every day that the hospital was open. The number of new patients dealt with was 2722 and the attendances made by patients totalled 12,619. During the year 484 operations were performed under a general anæsthetic and only two deaths occurred in the hospital.

Outbreak of Typhus Fever in Dundee.

A rather serious epidemic of typhus fever has broken out in Dundee. 12 cases are in hospital and 21 cases are under supervision in the reception house.

Montrose Asylum and Infirmary Board.

The monthly meeting of the Montrose Asylum and Infirmary board was held on June 2nd when the question of the dismissal of the clerk of works in connexion with the new convalescent home at Edzell again came under discussion. A protest was made by one of the managers against the finding of the board at the previous meeting to take from the house committee the power to appoint another clerk of works and to dismiss the original one. The protest was duly recorded in the minutes.

Morningfield Hospital, Aberdeen: Annual Report.

The annual meeting of the supporters of this hospital was held on June 4th. The report was submitted and an earnest appeal was made for increased support. The ordinary income of last year was only half of that expended on the upkeep of the patients. The average number of patients throughout the year was 79. The ordinary expenditure on the maintenance and management of the hospital was £2333 with the addition of £79 for extraordinary repairs. The income was £1207. Legacies were received of £666, bringing the income up to £1874. The average cost of each patient, including medical attendance and medicine, was £28 3*s.* 9*d.* This is the seventh consecutive occasion on which a deficiency has been reported, the seven years' deficiency amounting to the sum of £6286, £4508 of which went for necessary additions and alterations on buildings and the other £1777 on the actual maintenance of patients. The committee in January last received with much regret the resignation of Miss Armstrong of the office of matron. In accepting her resignation the committee conveyed to Miss Armstrong an expression of its appreciation of her services. The post of matron has been filled by Miss Elizabeth Massie, formerly matron of the convalescent home in connexion with the Inverness Infirmary.

June 16th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Circular Statement issued by the Royal College of Surgeons in Ireland.

THE Royal College of Surgeons in Ireland has issued to its Fellows a circular statement in defence of its claims to an endowment from the Government should the present Irish Universities Bill become law. Those of your readers who desire to acquaint themselves with its contentions need only turn to the leading article upon the subject on page 1494 of your issue of May 23rd ult., for the College has done THE LANCET the compliment of closely following the arguments which are put forward on that page. The College further answers the objection to its present status that the College should not (as in London and Edinburgh) possess a medical school, that the extra-mural schools in Edinburgh exercise the corresponding function of supplying candidates for diplomas. The examining practice of all British universities disposes of the objection to a teaching body having qualifying powers. The circular states that the number of Irish Licentiates entered on the Medical Register for 1906 is given as conjoint diplomas, R.C.P.I. and R.C.S.I., 68; Royal University of Ireland, 56; University of Dublin, 40; and Apothecaries' Hall, 3.

The Irish Medical Association.

The annual general meeting of the Irish Medical Association was held on June 10th in the Royal College of Surgeons under the chairmanship of Professor J. S. McArdle, Vice-President. The report was presented by Dr. Thomas Donnelly, the honorary secretary; it dealt with several matters affecting the legal position of medical practitioners. The first was as to whether medical officers are entitled to fees for expert evidence and for making post-mortem examinations upon the bodies of workhouse inmates. Counsel's opinion had been obtained and was in the affirmative. A deputation of the council of the association had waited upon the Local Government Board in reference to fees payable under the Labourers Act (1906) but had been unable to obtain any increase in the fees sanctioned. The council had also taken counsel's opinion upon the Order of the Local Government Board of May 13th, 1902, disqualifying medical men from acting on public boards. The opinion obtained was that the order was *ultra vires* but remained good until quashed *a certiorari*. The report further stated that the association numbers 726 members and dealt with its state of finances. The officers were elected for the coming year, Sir William J. Smyly being declared president, Dr. Leonard Kidd (Ulster) and Dr. F. W. Kidd (Leinster) vice-presidents, Dr. Donnelly honorary secretary, and Sir W. J. Thompson honorary treasurer. The county councillors, and general councillors were also declared. The incoming president, Sir William Smyly, then took the chair and proceeded to give his opening address. He said that his duty as president obliged him to refer to the great exertions which had recently been made in the way of combating tuberculosis in this country, which were chiefly inspired by the example offered and the hope held out by Lady Aberdeen. He then proceeded to his own special domain of midwifery and pointed out that very much remained still to be done in that department. The old types of medical practitioner and trained midwife, each actively hostile and aggressively scornful towards antiseptic precautions, had both passed away, and the modern representatives of each were fully alive to the importance of such practice. But even now the average mortality of childbirth was nearly double that which obtained in well-managed hospitals. The improvement of recent years had been not only in the qualification of medical men and nurses, but also in the provisions that can be procured even by the very poor. The General Medical Council had recently exerted itself in the direction of making the teaching of midwifery more practical. The recommendations of practical clinical examinations at lying-in hospitals and regular attendance at such institutions was deserving of universal support. He expressed his opinion that the Midwives Act would be a beneficial measure to poor lying-in women in Ireland and that the exclusion of Ireland from its scope was detrimental to their training schools. He also pointed out the important fact that if they adopted the same attitude towards the Bill for the Registration of Trained Nurses that they had done towards the Midwives Bill they would find their nurses excluded from practice in England as soon as it became law, which would soon be the case. Dr. Donnelly moved that "any Bill purporting to treat with the prevention of tuberculosis must, in order to be successful, treat justly the interests of Poor-law medical officers, without whose coöperation no legislative effort in this direction can fulfil the object for which it is introduced," and the motion was carried with enthusiasm.—The annual dinner of the association took place in the Royal College of Surgeons in the evening. Professor McArdle, in proposing the toast of "The Press," said that the Royal College of Surgeons would have a rival against which it would be hardly possible to compete if the University Bill became law. While admitting that the College deserved nothing from the State 30 years ago, he insisted that it was now doing noble service to education in this country and well deserved State support. When German universities were self-supporting they were well rivalled by the Irish schools. He had never heard a single valid argument advanced against endowment of this College.

The Apothecaries' Hall and Professor Sir G. H. Darwin.

The Apothecaries' Hall has unanimously adopted the suggestion of its governor for the present year, Mr. G. R. Seymour Stritch, to embrace the opportunity which is to be afforded by the approaching meeting of the British Association for the Advancement of Science of conferring its honorary diploma on Professor Sir G. H. Darwin, President, a distinguished son of the famous founder of the theory of the "origin of species by means of natural selection." The direction of attention to the name recalls the fact that Dr. Henry Freke of Dublin, then one of the visiting physicians of Dr. Steevens' Hospital, published in the "forties" of the last century a pamphlet the contents of which show that the author had anticipated by at least more than a decade the main features of the theoretic conception which conferred world-wide fame on Charles Darwin. The announcement also recalls the fact that the Apothecaries' Hall is really the oldest of our Irish professional licensing bodies—in the practice of medicine, surgery, and midwifery.

The Poor-law Service.

The depressing struggle for improvement of the salaries of Irish dispensary medical men still continues and at last seems to show some ground for hope of final victory—a hope which is putting fresh heart into the profession. To insure success unity must be preserved. The medical officers of the Irish dispensaries should bear in mind continually that it is only by voting solid on the side of the "honour and dignity" of their profession that a really honourable and dignified position and a profitable practice of their profession can be assured for them. This rule of voting inevitably combines with it "exclusive dealing" of the most rigid and uncompromising type wherever domineering and unsympathetic boards of guardians are in question. Every encouragement should be given them from their respective educational corporations and universities, for the rank and file of the dispensary medical men really form the backbone of the profession in Ireland. There exist in Ireland 159 unions, each of which is provided with a staff of medical officers. The Local Government Board report for the year ending March 31st, 1905, was the first which contained a list of unions in which graduated scales of salaries had been adopted. That of the following year showed a progressive movement—the list of unions numbered 26. The graduations were very much as on the former list; initial salaries varied from £60 to £150, and the maximum limit ranged between £150 and £180. In the following annual report the list of such unions had risen to 36, the south having shown most progress. And the report of last year shows that scales of salaries have been arranged and adopted by exactly one-third of the total number of unions in Ireland. How far the respective scales are just and satisfactory is a question which requires further consideration in a good many of the cases. Of the still outstanding two-thirds of the medical staff of the Irish Poor-law service many have made application—in some instances frequently repeated—to their respective boards of guardians for consideration of their cases.

The Case of the Derry Poor-law Lady Guardian.

Judgment was given recently *in re* the injunction sought against the Derry lady guardian—which was referred to after the adjournment. The proceedings were taken in order to

restrain the defendant from entering or visiting the infirmary otherwise than in accordance with the declaration of her right. Also to obtain an injunction to restrain her from creating a disturbance in the infirmary, or in the vicinity thereof, to the detriment of the patients therein. The plaintiffs also claimed that the defendant should pay all the costs of the action. Mr. Justice Barton, in delivering judgment, pointed out that the action was brought for the purpose of obtaining a declaration from the court that the defendant, when not acting on the visiting committee of the union, be not entitled to visit or to enter the workhouse infirmary, except as subject to the rules and regulations published by the guardians on July 1st, 1907. The various headings had to be considered separately. Mr. Justice Barton stated that the court had power to make binding declarations regarding disputed rights and to give an injunction for the purpose of enforcing the right so declared and that, as a general rule, costs in court follow such result. An injunction was, however, a formidable legal remedy enforcible by imprisonment, and not always granted without giving time for the defendant to reconsider the position in the light of an authoritative declaration of the law. The costs of an action had also to be taken into consideration in the light of all those circumstances which might tend to affect the judicial discretion of the court. After discussing the facts of the evidence seriatim his lordship concluded that, whilst holding in favour of the plaintiffs, he was glad to be able to feel at liberty not to throw all the costs on to the defendant. To do that would be to crush and ruin her and he would avoid that extreme course. The order of the court would be that the plaintiffs have the declaration they asked for. The injunction would not issue at present but the plaintiffs would be at liberty to apply that it should issue if it was found necessary, as he hoped it would not be, and that in such case the defendant would bear the costs. He made no order as to costs and felt that he was pursuing a course of leniency and moderation, remembering that he was not dealing with an experienced man but with a woman actuated by excellent motives.

Purdysburn Asylum.

On June 11th the members of the Belfast corporation paid a visit to Purdysburn asylum to examine the sites for the new buildings to be erected with the grant of £83,000 sanctioned by the corporation. The administrative buildings, recreation hall, and the hospital, which will have accommodation for 200 patients (100 males and 100 females), will be put up at a cost of £160 per bed. A resolution was passed by the asylum committee approving of the plans of the building for the new colony.

Belfast Hospital for Sick Children.

At a meeting of the board of management held on June 11th a resolution was passed deeply regretting the sudden death of Dr. S. B. Smyth, who for 15 years had been on the medical staff.

William McHarry, L.R.C.P. & S. Edin.

I regret to announce the death of Mr. W. McHarry which took place at his residence, Grosvenor-road, Belfast, on June 12th, from chronic Bright's disease after a lingering illness. The son of a Belfast medical man Mr. W. McHarry studied in Belfast and at Surgeons' Hall, Edinburgh, where in 1897 he became a Licentiate of the Royal Colleges of Physicians and Surgeons. He succeeded his father in practice in Belfast about nine years ago, and as a result of his energy and popularity he had greatly extended it. Mr. McHarry was a prominent Freemason and a Past Master of Grosvenor Lodge, No. 393. He was unmarried and is survived by his mother and by three sisters, with whom general sympathy is felt in their bereavement. The funeral, which took place on June 15th, was largely attended by members of the medical profession.

June 16th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Whooping-Cough by the Milk of Animals injected with Anti-tetanic Serum.

AT the Biological Society on May 23rd M. Bloch made a communication in which he stated that having cured of whooping-cough a young woman and her twin infants whom she was nursing by injecting her with ten centigrammes of anti-tetanic serum, it occurred to him to treat children suffering from that affection by feeding them on milk derived from two goats and a cow, each of which had received an injection of ten cubic centimetres of the same serum. Nearly all of the 12 children thus fed showed a rapid improvement and their paroxysms of coughing diminished in number and severity. It must be added that the therapeutic effect of the milk grew weaker towards the fourth week and it was necessary to reinoculate the animals that gave it.

Arterio-sclerosis.

At the Academy of Medicine on June 2nd M. Lancereaux brought forward his views upon the cause and treatment of arterio-sclerosis. At the congresses at Nantes in 1875 and in London six years later and ever since M. Lancereaux has always maintained that arterio-sclerosis is a manifestation of gout and that a trophic disorder of the nervous system was at the bottom of it. The alterations in the inner coat of the vessels which constitute arterio-sclerosis are gradually produced by a deficiency in the functions of the sympathetic nerves and its consequent effect upon the arterial tissues. This theory is borne out fully by an experiment of Giovanni, in which he cut the sympathetic cord close to the vertebral column and subsequently found that sclerotic plaques appeared in the aorta, and also by a recent observation of M. Chantemesse who observed arterio-sclerosis, which was limited to the arm, following an injury to the shoulder which damaged the corresponding brachial plexus. M. Lancereaux considers that those views are erroneous which attribute the condition to any of the following causes: old age, for arterio-sclerosis never begins after about the sixty-fifth year; alcohol, for many sufferers from this disease have never been addicted to alcohol and *vice versâ;* tobacco; intestinal auto-intoxication; infectious diseases, even syphilis; or disturbances in the function of the suprarenal capsules. M. Lancereaux considers that the treatment should not be based upon the reduction of arterial hypertension, which is the result and not the cause of the disorder, but upon the regular employment of iodide of potassium and thyro-iodine. Regulation of the diet is a useful accessory without having the paramount importance which has been ascribed to it and a mixed diet is to be preferred. This plan of treatment nearly always arrests the progress of the condition, but a cure cannot be hoped for unless arterio-sclerosis has been diagnosed from its very beginning and its treatment taken in hand at once. It is a general principle that all patients with cardiac hypertrophy, raised arterial tension, nocturnal polyuria, and urine of lowered specific gravity and poor in solid elements should be suspected of arterio-sclerosis and treated accordingly.

The Consumption of Alcohol in France.

The combined taxes levied in France on alcoholic beverages, including vermouths, sweet wines, and similar products, amounted in 1906 to 360,442,000 francs for all except the vermouths, which brought in 15,500,000 francs. The consumption in terms of absolute alcohol per head in towns of more than 30,000 inhabitants came to 12·01 litres in Havre, 11·99 in Rouen, 11·30 in Boulogne-sur-Mer, 10·15 in Caen, and 12 in Calais, which clearly shows the unhappy prevalence of drinking in the two most thickly-populated areas, Normandy and Flanders (Departments), for in no other province does the figure exceed 7, whilst in Paris it is only 4·49, and in Marseilles 4·31. Béziers enjoys the greatest sobriety with a consumption of 0·99 litre, and Carcassone comes next with 1·30. It must be remembered that the consumption of alcohol in a seaport does not imply that it has all been drunk by its own inhabitants.

The Treatment of Constipation by Electricity.

M. Laquerriere and M. Delherm communicated a paper upon this subject to the Therapeutical Society on May 27th. They claim to have been the first to introduce into the practice of electrotherapy the distinction between forcible and gentle methods of its application. In certain cases the former methods may cause harmful shock to the intestines and nervous system. The system of mild electric treatment which they published in an essay that gained an Academy prize in 1903 not only cannot irritate but, on the other hand, actually soothes the abdominal plexuses. Its action is very different from that of purgatives, for its object is never to provoke an immediate evacuation but is strictly curative and, as a matter of fact, gives excellent results in constipation. The authors have followed up their former patients and they

find that the great majority of them have remained cured for two or three years after discontinuing the treatment. They conclude, therefore, that the sedative application of electricity has no drawbacks but should take its place amongst the recognised methods for the treatment of chronic constipation.

A Protest against Feigned Operations.

M. Picqué has brought the matter of feigned operations before the Chirurgical Society. The patients upon whom one is tempted to practise them fall under three classes: those who complain of real pain, those who complain of a malady which exists only in their own imagination, and those who think that they have an animal inside them in the stomach or some other organ. To feign the performance of an operation is, as a rule, harmful to the patient. Its result depends upon his mental state; it cannot be beneficial for those who think they are harbouring something, because their idea amounts to a delusion and will only be confirmed and strengthened. Patients suffering from pelvic and abdominal pain may develop an operative mania which may often be "caught" from some other patient, and in these patients a pronounced psychosis may result from a feigned operation. M. Picqué considers that simple suggestion is sufficient for the cure of cases such as these.

Iodide of Potassium in the Treatment of Leprosy.

It is well known that iodide of potassium usually causes a febrile reaction and a cutaneous eruption in lepers. At the Society of Tropical Diseases on June 10th M. Marchoux and M. Bourret made a communication in which they stated that this reaction is always accompanied by the destruction of a large number of Hansen's bacilli which under the influence of the drug lose their acid-resisting qualities. They consider that this destruction of bacilli sets free a toxic product analogous to tuberculin in the blood stream, to which the symptoms of the reaction are due. The iodide produces a variation in the leucocyte count which is modified according to the source whence the drop of blood is obtained. For instance, blood from a finger and from the neighbourhood of a suppurating nodule gives a similar count, whilst there is a considerable difference in the number of leucocytes found in blood taken from one of the eruptive lesions.

June 15th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

An Epidemic of Microsporia.

AN epidemic of microsporia has recently broken out at Schöneberg, a suburb of Berlin. A boy, four years old, had been taken to the municipal hospital, suffering from a disease of the scalp, which presented about 10 circular bald spots, partly confluent and covered by adherent, fine grey-white scurf. There was no symptom of inflammation and the skin on the other parts of the body was healthy. The history of the case proved that the boy had a friend who, together with his brothers and sisters, had the same symptoms. The diagnosis was at first uncertain and was considered to lie between favus and seborrhœa. Microscopical examination showed that the hair was covered by a dense layer of small spores. The parasite was by cultures ascertained to be a trichophyton of the species microsporon. Dr. Sabouraud, who has made special researches on these parasites, describes three species—microsporon equi, microsporon lanosum, and microsporon Audouini—which give rise to different symptoms and have cultural distinctions. The microsporon observed in the above case differed from other species in certain points. It is shown not to belong to either of the first two by the fact that there was no inflammation of the scalp and that the disease did not spread to other parts of the body. In cultural appearances, especially in potatoes, it was very like the third species, the microsporon Audouini. The epidemic has gradually spread and up to the present time some 20 children have been admitted to the hospital from the same suburb. The epidemic has not yet spread beyond its limits and Berlin itself is still exempt. The municipal authorities of Schöneberg have taken energetic measures against the spread of the disease. A special commission has been elected for that purpose, which includes the medical officers of health, the physicians of the hospital, members of the municipal council, and others. Professor His, professor of medicine at the University of Berlin, has been invited to take part because he had the opportunity of observing a similar epidemic when he resided at Basle. The commission has decided to issue popular instruction about the epidemic in order to induce people to consult a medical man as soon as any suspicious symptoms may appear. The barbers' shops are to be put under supervision. A number of medical men will be engaged to examine all of the 8000 pupils of the public and other schools of the suburb and this examination is to be repeated after a certain period. Persons who have caught the disease are to be conveyed to the hospital and suspected cases will be examined and treated free of charge as out-patients by the hospital physicians. The class-rooms and lodgings where those children have stayed are to be disinfected. As for treatment, Dr. Plant recommends shaving the scalp and washing it with soap, then brushing it with a mixture of epicarin 5 parts, alcohol 80 parts, and ether 20 parts. He recommends finally the administration of the x rays.

The German Committee on Tuberculosis.

The German Central Committee for the Suppression of Tuberculosis met for the twelfth time at Berlin on May 27th, under the presidency of the Secretary of State for the Interior, Dr. von Bethmann-Hollweg. He said that the committee in the preceding year had especially provided for "Fürsorgestellen," institutions such as were planned by Dr. Calmette of Lille for the systematic care of tuberculous and suspected cases. The number of these Fürsorgestellen has been considerably increased, especially in the country, and the advantages of these institutions have been systematically preached by the committee. The general secretary, Professor Nietner, gave a report of the committee's work. It has at present 1539 members and £18,900 have been contributed by the committee for sanatoriums and other institutions. The imperial treasury has supported the committee by a sum of £3000. There are actually 99 sanatoriums for the poorer classes with 10,529 beds, and 36 private sanatoriums for well-to-do people, with 2115 beds. 18 sanatoriums with 827 beds exist for tuberculous children and 70 with 6843 beds for scrofulous children. Three sanatoriums with 180 beds are in course of construction. There are, moreover, 175 "Fürsorgestellen" and 82 Walderholungsstätten (daily health resorts). The conveyance of incurable cases into big special sanatoriums has proved a failure because of the resistance of the patients to these institutions, although the attempt was made to accommodate them in small asylums with home-like surroundings. Dr. Kaiserling discussed the present state of the law concerning tuberculosis. He hoped that tuberculous children might eventually be isolated in sanatoriums even against the will of the parents. He advocated an imperial law to deal with tuberculosis which should contain provisions for the institution of local offices where every case of tuberculosis should be notified and having authorities who could undertake the necessary measures against the spread of the disease. Professor Neisser spoke on lupus. He said that the disease is actually spread in the same way as lepra was in former centuries. As the disease begins as a rule in childhood all the children in the schools ought to be examined regularly. Early treatment of long duration being necessary to avoid mutilation, he recommended special sanatoriums with the necessary equipment, Roentgen ray apparatus, &c. Cured patients should be kept under observation for a certain time. He agreed with the formation of a committee to deal with lupus which would act as a subcommittee of the central tuberculosis committee.

June 15th.

COPENHAGEN.

(FROM OUR OWN CORRESPONDENT.)

A Milk Epidemic in Christiania.

AT a recent meeting of the Medical Society of Christiania Dr. Ustvedt, the sanitary inspector of the city, read a paper on a recent epidemic of febrile angina due to an infected milk, which was described at some length in an annotation in THE LANCET of June 13th, p. 1707. In the discussion which followed this address the chief medical officer of Christiania, Dr. G. E. Bentzen, proposed new regulations for the milk trade which were rather severely criticised. Dr. Malm drew attention to a similar epidemic described in 1897

by Grey-Edwards and Severn, in which anginous affections were likewise caused by milk containing streptococci. To his knowledge there had also been a similar epidemic in Stockholm in April this year, where an inflammatory process in the udder of a cow was proved to be the source of infection. He had made bacteriological researches on pus from a pyarthrosis in one of the patients who died in the recent epidemic and had isolated a streptococcus.

An "After-cure" for Sanatorium Patients.

A useful adjunct to the measures directed against tuberculosis in Denmark is formed by the so-called "air cure institution" of Copenhagen. It is intended for patients returning from the Danish sanatoriums, many of whom need an after-cure. The War Office has been good enough to place a sheltered corner of the old fortifications of Copenhagen at the disposal of the committee. In this place the usual equipment for the open air rest cure will be provided and entrance will be free to all patients who present a certificate from their medical attendant. Milk in summer and hot dinners in winter will be given free, but otherwise the patients must cater for themselves. As the whole affair is arranged in the simplest possible manner the spending of a few hundred pounds will enable the committee to let a large number of patients benefit from this philanthropic scheme.

Artificial Pneumothorax for Pulmonary Tuberculosis.

At the last meeting of the Society for Physical Therapeutics and Dietetics Professor Saugmann read a paper on Forlanini's pneumothorax treatment of tuberculosis of the lungs. At the Vejlefjord Sanatorium, which was the first sanatorium in Denmark and erected by subscription amongst the Danish medical profession, he had tried the treatment in a number of cases and had been on the whole favourably impressed by its results. Dr. Würtzen said that they had also tried the treatment at the Oresunds Hospital (the tuberculosis hospital of the municipality of Copenhagen) and though he would not commit himself to definite statements he thought that the method would prove useful in certain cases.

June 15th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Divisional Surgeon and Post-graduate Instruction.

IT was a happy inspiration of Luigi Mangiagalli, Porro's successor in the obstetric school of Milan, to institute in the Lombard capital, the so-called "corsi accelerati di perfezionamento pei medici condotti" (abridged courses of post-graduate instruction for the medical officers, divisional or communal, in town and country). These hard-worked public servants have not the time to keep abreast of contemporary observation and practice, scientific and clinical; nor, ill paid as they are, have they the means of replenishing their libraries with the professional treatises which succeed each other with bewildering rapidity. Few and meagrely furnished, moreover, are the medical journals, weekly or monthly, which suffice of themselves in other countries to keep the busy practitioner "up to date" in knowledge and practice, and so in too many cases the "medico condotto" is inadequately equipped for more than the most ordinary routine work. To meet his wants the Milan school (as stated) has instituted a series of "corsi accelerati" and the numerous and attentive auditories which they attract are at once the justification of the step and an appeal to other centres to do likewise. That appeal has just been effectively voiced by the head of the profession in Rome, the Senator Guido Baccelli who, on a special visit to Milan, pleaded powerfully before a large audience of the profession and the more enlightened of the public for the multiplication throughout Italy of "corsi accelerati" on similar lines to the Milanese and addressed to similar hearers. Prefacing his remarks with a lucid exposition of the diagnosis, treatment, and prognosis of cardiac disease as now understood, practised, and taught in the most advanced medical schools, he proceeded to urge the claims of the public health officer on his more favoured brethren and called upon the professoriate and clinical staffs of the various academic centres to spare a few hours from week to week, or from month to month, for kindly conference with the "medici condotti" of their neighbourhood on the latest accessions to the healing art in theory and practice. Instancing the success of such "corsi accelerati" as those delivered by Professor Belfanti of Milan on the Pathology of Infective Maladies—a course to be followed immediately on not less interesting themes by Professor Devote and Professor Bonardi of the same school—he showed that the great masters of Italian medicine had in times past been similarly inspired, reaping the reward of their fraternal intercourse with the rank and file of the great army of health in the experience at first hand, freely and intelligently given, of the "men of action" with whom they came into touch. In the interests of the public and equally in those of medical progress it would be well for the communes to raise a fund so as to facilitate the periodical meeting of their "medici condotti" with their academically placed brethren—a suggestion, it is satisfactory to note, reinforced by the lay press after being heartily endorsed by the 800 medical practitioners and consultants addressed at Milan by Baccelli. His Excellency Signor Rava, Minister of Public Instruction, has signalised his sympathy with the movement initiated at Milan, so that before the century is much older we may see in the response to this "new departure" an earnest of Italy's return to the honourable post which she held in the field of medicine throughout the later decades of the "cinque cento" and the century succeeding.

The Juggernaut of the Streets.

According to Mr. Frederic Harrison "the twentieth century omelette requires a great smashing of eggs." Granted; but is there not excess, or waste, or both in the process? Here in Italy, whose thoroughfares are solitudes compared with those of northern countries, the tale of killed or injured from accidents due to motor and cyclist traffic is rising daily in number, and whether on the high road or in the narrow streets of towns still mediæval in character the safety of the pedestrian or even of the passenger in cab or tramcar becomes more and more precarious. In Great Britain or France or Germany the claims of business are imperious enough to make the motor a necessity even more than a luxury, but in Italy, with her *petite vie* in commerce, industry, and "affairs," that vehicle is now in far greater request than her conditions can at all justify. "No Italian," a compatriot has remarked, "will walk if he can help it"—insomuch that in cities like Florence, whose *raison d'être* is purely artistic and non-commercial, the provision for "vicarious progression" is out of all proportion to the genuine need for it. Even if she were, like Milan or Rome or Naples, a seething centre of life and movement, she is less adapted for motor vehicles or high-speed traffic than the least modern of these cities—her structure being still to a great extent what Dr. King Chambers said it was in THE LANCET half a century ago, "a series of Hanway passages bordered by Newgate prisons." The last of a number of accidents, more tragic than the worst of its predecessors, has, however, roused public indignation to such a pitch that, if municipal intervention is to count for anything, it will mark the close of an all too sanguinary tale. I refer to the horrible death of one of the most valued of Florentine residents, the Cavaliere Sebastiano Cecchi, a prominent banker in the city, who yesterday morning, while taking exercise on his motor-cycle in the Cascine, the Hyde Park of Florence, was suddenly encountered by an automobile. Hurled some 50 feet away his death was instantaneous.

The "Industria Termale."

Of all the interests inspiring the "Association for Promoting the Influx of Foreigners into Italy" that of the so-called "thermal industry" or the development of the country's resources in mineral waters and balneary "cures" is the most clamant. At the recent "Congresso d'Idrologia," the ninth of the series, held at San Remo, this fact was much in evidence. Discussion, regular and informal, brought out the disquieting truth that Italy's wealth in mineral waters remains but very partially utilised. Such resorts as Montecatini, Salsomaggiore, and Anticoli, second to none in the special virtues of their waters, are typical specimens of what Italy possesses in abundance, yet of these Salsomaggiore alone, in the opinion of authoritative hydrologists, can really be called adequate to the rôle they affect in the matter of up-to-date equipment and personal comfort. Enterprise—what Italians call "*slancio*" and the French "*élan*"—has yet to apply itself to the development of Italy's balneary resources, and where private initiation is wanting it is suggested that the commune in

which the thermal springs are in play might organise the means of attracting and retaining the public patronage so effectively appealed to by the great "stabilimenti" in Austria, Germany, and France. The "limited liability company," it seems, is a method of promoting the "thermal industry" to which Italy has not yet done justice, so as to secure to the balneary resort that comfort and amenity which in the well-appointed establishments north of the Alps are rightly regarded as a coefficient in the cure. But it is the "municipalisation of the thermal industry," struggling in its infancy throughout the Italian Kingdom, that is now seen to be the soundest and safest mode of reaching the end in view. If its success were once brought home to the controlling spirits of city and commune it might be carried out on a scale which could both invite and tempt the State to supplement the local initiative and so to put Italy on the lines of a development which would redound not only to her own interests but to those of the invalid world far and near.

June 15th.

INDIA.

(FROM OUR OWN CORRESPONDENTS.)

The Pasteur Institute of Southern India.

IT is now a few days over one year since the munificence of Mr. Henry Phipps enabled the Pasteur Institute of Southern India to be opened at Coonoor for the treatment of patients, and since the formal inauguration of the building by Sir Arthur Lawley the work of inoculation against rabies, of spreading knowledge of the treatment, and of research and experimental investigation has been actively proceeding. Although much still remains to be done to complete the efficiency of the institute, the two-storeyed structure already contains rooms for the following purposes: sterilisation of apparatus and preparation of media, operating and dissection, animals, inoculation of patients, waiting-room, surgery, dark room, offices, laboratory, library, and quarters for a medical officer, while quarters for indigent patients are comprised among the outbuildings. The first president, Surgeon-General W. R. Browne, C.I.E., I.M.S., and his successors hold office until their resignation or until they leave India permanently, and the general management of the affairs of the institute is vested in a central committee. The buildings are about a mile from the railway station of Coonoor, which lies in the Nilgiri Hills, about 6000 feet above the sea level, and is reached by the Nilgiri railway from Mettupaliyam on the south-western branch of the Madras railway in about four hours. Accommodation is provided for patients who do not reside in the institute by various hotels and boarding-houses and a residential club, while British soldiers stay in the Station Hospital at Wellington and are sent daily to the institute in a tonga. Indigent native patients are accommodated, so far as room permits, in the free quarters in the institute compound and are provided with blankets and cooking pots. The number of persons treated during the year is 166. The virus with which to start the antirabic treatment was supplied by the director of the Pasteur Institute at Kasauli from a strain originally derived from that in use at the Pasteur Institute of Paris. It is considered advisable for patients to bring with them the brain of the animal that bit them, preserved according to specified directions, since early diagnosis is of extreme importance. Much time is now saved by the present method of diagnosing rabies by a microscopic examination of the brain of the affected animal, whereas formerly the only method possible was to inoculate a rabbit from the brain of the suspected animal and to wait for rabies to develop, thus necessitating a delay of from 10 to 60 days.

Military Nursing Service.

The following changes in Queen Alexandra's Military Nursing Service have been sanctioned by the Secretary of State for India: (*a*) the age limit for admission into the service will in future be from 25 to 32 years; (*b*) the age limit for retirement for nursing sisters and senior nursing sisters will be 50 years, and for lady superintendents 55 years; and (*c*) candidates for appointment must have had three years' previous training service combined in a British general hospital or hospitals of not less than 100 beds. The new age limits for admission and retirement do not apply to candidates now on the selected list nor does the latter to members belonging to the service on Jan. 24th, 1908.

Cholera in Peshawar.

An outbreak of cholera has occurred in Peshawar city in the Hindu quarters and up to the present a dozen deaths have occurred. The suspected wells have been closed and measures have been taken to prevent the spread of disease. One soldier has died and several followers have contracted the disease.

Anthropological Researches.

The Andaman and Nicobar Islands offer a fascinating field of research for the ethnologist, for the inhabitants are as primitive a race as any people in the world. Civilisation has not yet had any effect upon their customs, and not so long ago it was reported of the Jarawas and some sections of Onges that they "kill every stranger at sight." Sir Herbert Risley, who has done so much for the cause of ethnology in India, has more than once expressed doubt whether the investigation of so-called "primitive" races which are really moribund is likely to throw light upon the origin of people who are not moribund, but enthusiastic ethnologists at home continue their researches with unabated zeal. In 1906 the Board of Anthropological Studies at Cambridge decided to send out to the Andamans Mr. A. Radcliffe Brown who had been trained in methods of inquiry by Professor Haddon, secretary of the board. Application for a small grant in aid and the assistance of local officials was made to the Government of India, and this was at once granted. Mr. Brown arrived at Port Blair in August, 1906, and he has just left Bombay on his way home. I understand that during his long stay in the Andamans he accumulated a mass of information which will doubtless be produced in book form after his arrival in England. The Onges, who live mostly in Rutland Island and in the Little Andamans, were the most interesting tribes which he studied. He lived among the people in order to carry out his researches and became intimately acquainted with their manners and customs. Thanks to the arrangements made by the Port Blair authorities his personal safety was not endangered.

The Principal Medical Officership, India.

The present principal medical officer of His Majesty's Forces in India, Surgeon-General W. L. Gubbins, C.B., M.V.O., has been appointed deputy-director-general Army Medical Service at the War Office, vice Surgeon-General W. J. Fawcett, C.B., who retires, having reached the age limit on May 13th. Speculation is rife as to who Surgeon-General Gubbins's successor will be out here. Colonel A. T. Sloggett, C.M.G., R.A.M.C., who is on the eve of his promotion, it is thought will most probably be selected for this very important post.

May 14th.

NEW ZEALAND.

(FROM OUR OWN CORRESPONDENT.)

New Zealand and Public Health.

AT first sight it might seem that there was some justification for the inference which "F.R.C.S.," in THE LANCET of March 7th, p. 746, drew from your comment upon the last report by the chief health officer of New Zealand with reference to quackery and legislation there-anent. Here we have the female franchise, and while it cannot be gainsaid that mothers, the world over, strive to guard their sons and daughters from the "sexual expert," the mothers had little part in the pillorying of the man who "fattens upon the indiscretions and frailties of youth or the follies of the devitalised roué," as the report phrases it. For several years the chief health officer has been endeavouring to obtain some statutory hold over those who ply the trade of medicine outside the legal fold. The Public Health Act of 1900 meant by one of its clauses to give power to call for the proclamation of the formulæ of all secret and proprietary medicines, but unfortunately the use of the phrase "patent medicine" practically stultified the desire of the House of Representatives. To try to define in law what a patent medicine is is to imitate the dog who tries to swallow its tail. Nowhere is the viciousness of the "circulus in probando" better seen. A patent medicine is a medicine which for the purposes of the Excise Act requires a patent medicine stamp, while if you care to

approach the matter from the other end a patent medicine is something which has an excise stamp. While it was clearly recognised here, as elsewhere, that much injury was done to the public through the commercial method of announcing the value of certain proprietary medicines, it was quite clearly realised that there was a limit which bound a State in its idea of protecting its people.

While some members of the profession would away with all medicaments except those prescribed by the faculty, those who have to deal with these matters from an official point of view soon have it borne in upon them that even if such a wholesale embargo were wise it is quite impossible. There is no Parliament, be it never so "grandmotherly," to use your correspondent's phrase, that would countenance such drastic control of the patent medicine trade. Apart from this impossibility of getting such statutory control there are few health officers who desire it. After all, their duty is to safeguard the health, not the pockets, of the community. Because quack pills cost more than Blauds is no reason why special laws should be placed upon the statute book, but if the health adviser knows that mental and physical injury is being done to the citizens through the vendors of alleged "sexual cures," "cancer cures," and cures for consumption, his line of duty is quite clear.

A perusal of the many Bills which have been introduced into this Parliament would show "F.R.C.S." that mothers and female franchise had had little part in them. The Prime Minister, Sir J. G. Ward, when Minister of Public Health, some years ago endeavoured to get through the House legislation which would have given some control over the traffic in these noxious things. Individual members of the House have tried also, but vested interests play here as powerful a part as they do in older lands. Hence the non-success. Kites heavily laden were flown but they all came to earth, but one better weighted than the others managed to come safely home. The innocent-looking amendment to the Postal Act went through and used by a sympathetic Minister has done much to purge our newspapers and our post from the plausible baits held out by those quacks who assuredly do most harm to the community. Indirectly the mother's wish has been granted, but hardly with her knowledge or aid. The controlling agent was only one of many born which passed through the ordeal of discussion.

Wellington, April 22nd.

Obituary.

EDWIN RICKARDS, M.A., M.B. OXON., F.R.C.P. LOND., F.R.C.S. ENG., L.S.A.

IT is with much regret that we record the death of Dr. Edwin Rickards, which took place on June 11th, at his residence, Edgbaston, after a brief illness due to broncho-pneumonia supervening on an attack of influenza. Dr. Rickards was born at Cosby in Leicestershire in 1841, his father being vicar of the parish. He was educated at St. John's College, Oxford, where he took the degree of Master in Arts in 1865. From there he proceeded to study at University College Hospital where in due time he became house surgeon to Mr. Erichsen. In 1870 he obtained the Fellowship of the Royal College of Surgeons of England and in 1872 the degree of Bachelor of Medicine of the University of Oxford. In the same year he was appointed to the post of resident registrar and pathologist at the General Hospital at Birmingham. Having now definitely settled to follow the medical branch of the profession he obtained the Membership of the Royal College of Physicians of London, being subsequently elected a Fellow in 1886. In the year 1874 he was appointed as one of the honorary physicians to the General Hospital, Birmingham, thus receiving recognition of the assiduity and zeal with which he had discharged the duties of his previous office at that institution. He continued to devote his energies to the practice of the hospital until the year 1904, when resigning his hospital appointment after 30 years of faithful service he received public recognition in the form of a handsome presentation, in which Mrs. Rickards also participated. For 20 years Dr. Rickards was honorary physician to the General Dispensary and to the Institution for the Blind. At the time of his death he was a member of the council of the University of Birmingham. In the local medical societies Dr. Rickards took an active share, being at various times President of the Birmingham branch of the British Medical Association, the Midland Medical Society, the Medical Institute, and the Medical Benevolent Society. As a teacher his lectures were always interesting, giving evidence of powers of close and shrewd observation as a clinical physician, together with a wide knowledge of human nature. To these attributes he added a quaint and an original humour which made his teaching attractive and gained the attention of his hearers. His aim was ever to inculcate a high standard of professional excellence and rectitude and to uphold the best traditions of his calling.

Outside his professional pursuits Dr. Rickards was made a justice of the peace for the county. He always exhibited liberal hospitality, fairness, and genuine friendship. Of amiable manners and of gentle disposition, among a large circle of friends his qualities and character were recognised as those of a high-minded and cultured gentleman.

Dr. Rickards some 12 years ago married the daughter of Mr. John Archer, a much-esteemed medical practitioner of the town. He leaves a widow but no family. The funeral took place on June 15th at Northfield Church, near Birmingham. A large gathering of medical men, former colleagues, and friends of the deceased testified their appreciation of his worth in paying this last tribute of regard to his memory.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following appointments have been made:—Sir T. Clifford Allbutt, K.C.B., M.D., representative of the University on the General Medical Council for five years; Mr. W. Bateson, M.A., St. John's College, Professor of Biology; and Dr. H. K. Anderson, Caius College, University Lecturer in Physiology. Examiners in medicine: Dr. J. B. Bradbury, Professor W. Osler, Dr. J. Rose Bradford, and Dr. G. Newton Pitt. Examiners in surgery: Mr. T. H. Kellock, Mr. Stanley Boyd, Mr. L. A. Dunn, and Mr. Raymond Johnson. Examiners in midwifery: Dr. W. Rivers Pollock and Dr. H. R. Spencer. The examination for the first M.B. will begin on Tuesday, Oct. 6th. The following degrees were conferred on June 11th:—

M.D.—G. A. Coulby, Trinity; and A. H. Fardon, Christ's.
M.B., B.C.—L. B. Cane, King's; A. L. H. Smith, Gonville and Caius; and H. T. Ashby, Emmanuel.
M.B.—R. D. Anderson and A. W. L. Drake, Pembroke; and W. I. Cumberlidge, Christ's.

FOREIGN UNIVERSITY INTELLIGENCE.—*Basle:* Dr. Bloch has been recognised as *privat-docent* of Dermatology.—*Berlin:* Dr. Lewin of the Cancer Institute has been granted the title of Professor.—*Breslau:* Dr. Karl Davidsohn has been recognised as *privat-docent* of Pathological Anatomy.—*Chicago (North-Western University):* Dr. Arthur W. Meyer has been appointed Professor of Anatomy.—*Copenhagen:* Dr. Aage Holm has been recognised as *privat-docent* of Surgery.—*Dorpat (Iurieff):* Dr. Hermann Idelsohn has been recognised as *privat-docent* of Psychiatry.—*Harvard:* Dr. Eugene A. Darling has been appointed Assistant Professor of Hygiene.—*Königsberg:* Dr. P. Frangenheim, assistant in the Surgical Clinic, has been recognised as *privat-docent* of Surgery.—*Lemberg:* Dr. Martin Franke has been recognised as *privat-docent* of Medicine, and Dr. Dobrowski as *privat-docent* of Medical Chemistry.—*Munich:* Dr. F. Lange, who has just declined an invitation to succeed Professor Hoffa in Berlin, has been promoted to the professorship of Orthopædic Surgery; Dr. Frank, professor of physiology in Giessen, has been invited to succeed Professor von Voit.—*Naples:* Dr. Pietro Ricciardi has been recognised as *privat-docent* of Internal Pathology.—*Odessa:* Dr. Theodor Wernicke has been recognised as *privat-docent* of Ophthalmology.—*Prague (German University):* Dr. Emanuel Zaufal is retiring from the chair of Otology; Dr. Habermann of Gratz is to have the first offer of the post. Dr. Konrad Helly has been recognised as *privat-docent* of Pathological Anatomy.—*Rome:* Dr. Attendolo Conti has been recognised as *privat docent* of Internal Pathology.—*Rostock:* Dr. E. Martini has been recognised as *privat docent* of Anatomy.—*St. Petersburg (Military Medical Academy):* Dr. V. N. Klimenko has been recognised as *privat docent* of Infectious Diseases and Bacteriology.—*Strasburg:* Dr. Guleke, formerly assistant to Professor Bergmann in Berlin, has been recognised as *privat-docent* of Surgery. Dr. Wollenberg, who has been invited to accept an important post at Hamburg, has

decided to retain the chair of Psychiatry.—*Toulouse:* Dr. Morel, *agrégé*, has been appointed to the Chair of Hygiene.—*Tübingen:* Dr. Henschen has been recognised as *privat docent* of Surgery.—*Turin:* Dr. Edoardo Perroncito has been appointed Extraordinary Professor of Parasitology.—*Vienna:* Dr. Rudolf Kaufmann has been recognised as *privat-docent* of Medicine. The charge of the Third Medical Clinic vacant by the death of Professor Schrötter has been given to Professor Chvostek.

A WELL-DESERVED SENTENCE.—At the Carmarthenshire assize, held on June 3rd, a farmer and an ostler were charged with maliciously killing a horse in order to obtain £150 from an insurance society in which they had insured the animal. The accused alleged that the horse died suddenly from colic, but the evidence of a veterinary surgeon who made a post-mortem examination showed that death was due to hæmorrhage, caused by the introduction of a sharp instrument, probably a knife, into the rectum, which had pierced the aorta. The jury returned a verdict of guilty and both prisoners were sentenced to 12 months' hard labour.

FRENCH MEDICAL CONGRESS.—The eleventh French Medical Congress will take place this year at Geneva from Sept. 3rd to 5th. Professor A. d'Espine of Geneva is President, Professor Landouzy of Paris and Dr. Gautier of Geneva are vice-presidents, Professor A. Mayor of Geneva is secretary, and Dr. H. Maillart of Geneva is treasurer. Application for details can be made to Dr. M. Roch, 1, Rue de la Prairie, Geneva. Professor Huchard of Paris and Professor Jaquet of Basle will speak on the subject of the clinical features of arterio-sclerosis; Professor Dubois of Bern and Professor Jean Lépine of Lyons will report upon the pathology (la pathogénie) of neurasthenia; and Professor Gilbert of Paris, Professor Carnot of Paris, and Professor Mongour of Bordeaux have chosen the subject of the treatment of gall-stones.

THE ROYAL INSTITUTE OF PUBLIC HEALTH: THE HARBEN LECTURES, 1908.—The first of this series of lectures was delivered at the Royal Institute of Public Health on June 10th by Professor George H. F. Nuttall, M.D., D.Sc., F.R.S., Quick Professor of Biology in the University of Cambridge, on the subject of "Ticks, their Biology and Structure." In the course of his lecture he named 17 species of ticks concerned in the transmission of disease, comprising two species shown to transmit disease to man. He described their character and dwelt upon interesting points of their biology. Some species were known to survive for five years without being fed. Not only did they transmit disease but the effects of bites from ticks were very painful and in some cases caused death. The means of combating ticks was considered and it was shown that a scientific knowledge of their biology was essential for effective preventive measures. The lecture was fully illustrated by lantern slides and followed by a demonstration of all the pathogenic ticks and details relating to their structure. The second and third lectures are on "Spirochætosis in Man and Animals" and "Piroplasmosis." The former was delivered on June 17th and the latter will be delivered on June 24th at 5 P.M. at the Royal Institute of Public Health, 37, Russell-square, W.C., when all who may be interested are cordially invited to be present.

HOVE AND POOR CONSUMPTIVES.—In response to an influentially signed petition a public meeting was held at Hove on June 4th to consider the question of providing sanatorium treatment for cases of consumption among those whose means do not permit them to obtain such treatment for themselves. The large attendance included many medical men. The Mayor of Hove, to whom the petition was sent, presided. It was pointed out that pulmonary tuberculosis was not at all rampant in Hove but that it was desired to get hold of cases immediately they occurred, there then being a better chance of effecting a cure and also of minimising the danger of the infection spreading. The following motions were adopted:—

That this meeting considers that immediate steps should be taken to provide open-air treatment for early cases of consumption among residents in Hove; that the Mayor of Hove be requested to form a permanent committee of which not more than seven shall form an executive committee, which shall, in conjunction with the medical officer of health for Hove, formulate a scheme, collect money, appoint officers, and periodically report on the progress and administration of the fund; and that a fund be raised by public subscription.

The hope was expressed during the meeting that pressure would be brought to bear upon the town council to make some provision, and that whatever scheme was adopted it should be on provident lines so that it might not be a purely charitable institution.

Princess Alexander of Teck, who will open the extension of the Nurses' Home of Queen Charlotte's Hospital and the Residential College for Students on Tuesday, June 30th, will be received at 3 30 P M. by the President of the charity, Viscount Portman, Lady Portman, and the committee and medical staff.

ADULTERATION IN DEVONSHIRE.—On June 11th the Torquay bench of magistrates fined a Devonshire dairy company £5 for selling milk deficient in fat, and a local tradesman was fined £10 for selling butter deficient in butter fat, previous convictions having been proved against the man at Dartmouth, Exeter, and Exmouth.

KING'S COLLEGE.—Two Worsley Scholarships for the training of medical missionaries for India will be awarded in October, 1908. The scholars have free tuition and £20 a year for five years. For further conditions applications should be made to Mr. Walter Smith, secretary of the College.

THE first meeting of the Socialist Medical Society will be held at 19, Buckingham-street, Strand, on Thursday, June 25th, at 4.30 P.M. There will be a dinner at the Hotel de Dieppe, 40, Old Compton-street, Soho, at 7.30 on the same date. Applications should be made to Mr. M. D. Eder, 2, Charlotte-street, W.

GUY'S HOSPITAL.—On the occasion of his visit to England at the end of this month Dr. Raymond, professor of neurology in the University of Paris, will give a demonstration on some selected nervous cases in the physiological theatre of Guy's Hospital Medical School on Friday, June 26th, at 11 A.M. The attendance of qualified practitioners who may be interested is invited.

DONATIONS AND BEQUESTS.—The late Mr. Charles Edwin Layton has by will bequeathed £6000 to King's College, London, for scholarships; £5000 to Charing Cross Hospital; £2000 each to King's College Hospital for the erection of a chapel for the new building, and Royal National Hospital for Consumption; and £1000 each to the Royal Blind Pension Society, National Society for the Prevention of Cruelty to Children, and Metropolitan Hospital Sunday Fund.

MEMORIAL TO THE LATE DR. J. DRESCHFELD.—In response to an appeal for subscriptions to found a memorial to the late Dr. Dreschfeld a sufficient sum has been received for the establishment of an entrance scholarship in the Medical School of the University of Manchester, to be called the Dreschfeld Memorial Scholarship, and for the painting of a portrait in oils. The portrait is now on view at the Manchester Corporation Art Gallery and the artist, Mr. George Harcourt, has succeeded wonderfully well in his task of working from photographs, having produced an excellent and a happy likeness of Dr. Dreschfeld and a very fine work of art altogether. The fund will be closed now and if there are any members of the profession who wish to contribute to it they should send their subscriptions to the secretary, Dr. E. M. Brockbank, Albert-square, Manchester, at once.

POOR LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—The annual meeting of this association will be held at the town-hall, Hull, on Wednesday, July 15th, at 3 P.M. The members of the association will be received by the mayor of the city, Mr. H. J. Feldman, who has invited them to tea after the meeting. Surgeon-General G. J. H. Evatt, C.B., A.M.S. (retired), President of the association, will be in the chair, and after the usual business the following papers will be read: "The Poor-Law Medical Service," with Special Reference to the Grievances of District Medical Officers, by Dr. Major Greenwood, district medical officer and public vaccinator, St. Leonard, Shoreditch; and "Guardians of the Poor and Medical Relief," by Dr. A. T. Brand, medical officer, Driffield union workhouse. A general discussion will follow. The annual dinner of the association will take place on the same day at 6 P.M. at the Station Hotel, Hull. The President will be in the chair and will be supported by the Mayor and other members of the corporation. As this is the first annual meeting held in the provinces it is hoped that members will do their best to attend

and to support the council in the innovation. Those intending to be present should communicate with the honorary secretary, Dr. M. Greenwood, c/o Mr. W. Holder, Somerstown House, Holderness-road, Hull. The dinner tickets, exclusive of wine, will cost 6s.

A SOMERSET CENTENARIAN.—Mrs. Arthurs, of Rowde House, Bath, celebrated the hundredth anniversary of her birthday on June 5th.

ST. MARY'S HOSPITAL.—The annual prize distribution in connexion with the Medical School will take place on Monday, June 29th, at 3 P.M., when the Bishop of London will present the awards for the sessions 1907–8.

THE CARDIFF INFIRMARY.—At the meeting of the board of management of the Cardiff Infirmary, held on June 10th, attention was drawn to the financial position of the institution, and it was stated that the present deficit against the infirmary was £15,793.

OPHTHALMOLOGY AND THE UNIVERSITY OF OXFORD.—A congress of ophthalmic surgeons has been arranged for July 16th and 17th, at the end of the post-graduate course as in previous years. It is particularly desired that this meeting shall not in any way interfere with that of the British Medical Association at Sheffield, and arrangements have accordingly been made for addresses and demonstrations that shall be preparatory for the papers and discussions there. Thus, Sir A. E. Wright will give an address on vaccine therapy, Mr. A. P. Parker will give anatomical demonstrations of the accessory sinuses on a series of dissections, and Dr. Burch, F.R.S., Dr. F. W. Edridge-Green, and others will demonstrate the various theories of colour vision. The main idea of the course is to demonstrate (on actual patients as far as possible) the whole range of ophthalmology in order to make the reading of a text-book more profitable than can be the case when relying merely on pictures. The first part will be mainly devoted to demonstrating the practical examination of eye patients, the use of the ophthalmoscope, and the work of refraction. During the second part the work will be more specialised. As well as the mere routine cases, there will be a large selection of patients of unusual interest for the benefit of those who are more experienced in eye work. Altogether some 500 cases will be present for demonstration. Surgeons who desire to attend will be accommodated with board and residence in Keble College at the rate of 8s. 6d. per day. They will meet at dinner on Wednesday, July 15th, and the meeting will close after breakfast on Saturday, July 18th. A launch will leave Folly Bridge at 10 o'clock on Saturday, July 18th, to go down the river to Reading. As it will only hold a limited number, those who desire the trip must take tickets (price 7s. 6d.) beforehand.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Figures as to Plague.

SOME important facts and figures with regard to the prevalence of plague are given in a chapter devoted to vital statistics and sanitation in the blue book on the Moral and Material Progress of India during the year 1906–07. It is recorded that the general death-rate in 1906 was 34·73 per 1000, as against 35·96 per 1000 in 1905, and the decrease is attributed to the great decline in the mortality from plague. In 1906 the mean death-rate from plague in the British provinces was 1·33 per 1000, compared with 4·17 in 1905. It is noted that males suffered less from it than females, the death-rates being 1·25 and 1·40 per 1000 respectively. The great improvement of 1906 was not maintained in 1907. The relatively mild attacks of plague during the period August, 1905, to July, 1906, were followed by an outbreak of unprecedented severity and the period from August, 1906, to August, 1907, proved the most disastrous of all recent years in India. The deaths from plague in the calendar year 1907, according to the preliminary figures, number 1,200,735. Several interesting observations on the geographical distribution of the plague and on the measures taken to combat its ravages are made in the blue book.

The End of the Holidays.

Only a small proportion of the Members of the House of Commons returned to their Parliamentary duties on Wednesday, June 10th, and during the remainder of the week the scantily-filled benches attested the desire of the majority to prolong their short Whitsuntide holidays. Even questions to Ministers were few. The degree of interest in Parliamentary proceedings may be gauged from the division on Friday on the Prevention of Crime Bill—a Government measure dealing with the reformation of young offenders and the prolonged detention of habitual offenders. Less than 150 Members voted. However, the remaining weeks of the summer session are expected to put a tax on the energies of Members. June and July entail a much greater strain on the physical resources of Members than the earlier and cooler months of the session. The strain is, of course, intensified in proportion to the rise of the thermometer and the number of all-night sittings.

The Ruchill Fever Hospital, Glasgow.

A series of questions has already been put to the Secretary for Scotland in the House of Commons by Mr. WATT with reference to the Local Government Board inquiry into the overcrowding and understaffing of the Ruchill Fever Hospital, Glasgow. However, the hon. Member, who during the present Parliament has taken a deep interest in questions relating to public health, intends to pursue the matter further. He has given notice of his intention to ask the Secretary for Scotland how the local authority has dealt with the officials found by the Commissioners of the Local Government Board to be responsible, viz., the medical superintendent, the medical officer of health, and the matron.

Experiments on Living Animals.

Mr. HERBERT SAMUEL, the Under Secretary for the Home Department, has presented to Parliament the return on the experiments on living animals conducted under licence during the year 1907. The return has been issued as a Parliamentary paper.

The Safety of Children in Streets.

Mr. B. S. STRAUS has introduced into the House of Commons a Vehicular Traffic (Regulation of Speed) Bill for the purpose of securing the safety of pedestrians, especially children, in public thoroughfares in populous places.

Deaths from Cholera, &c., in India.

The return moved for by Sir WILLIAM COLLINS showing the number of deaths and the death-rate per 1,000,000 living in India for each of the last 30 years from cholera and small-pox, and also the deaths from plague from 1896, has been issued. The return is in tabular form and gives the number of deaths and the death-rates per 1,000,000 living in India for each of the years from 1877 to 1906 for cholera and small-pox respectively. The figures for plague are furnished from the outbreak in 1896. No statistics are given for enteric fever, which were asked for in the return, as they are not distinguished in the mortality returns from India. In the first year of the return the cholera death-rate was 3433·6 per 1,000,000 (624,675 deaths) and the small-pox rate 1009·9 per 1,000,000 (183,734 deaths), whilst in the last year these figures were for cholera 3053·7 per 1,000,000 (690,519 deaths) and for small-pox 484·6 per 1,000,000 (109,583 deaths). In 1899 the latter return was as low as 233·1 per 1,300,000. The plague mortality for 1896 was 10·4 per 1,000,000 (2219 deaths) and for 1906 1328·3 per 1,000,000 (300,355 deaths). In 1905 the number of deaths from plague per 1,000,000 of the population was 4167·6, the total number of deaths returned being 940,821.

The Poisons and Pharmacy Bill.

The report from the Joint Select Committee of both Houses of Parliament on the Poisons and Pharmacy Bill has just been issued. It gives the text of the new subsection inserted in the Bill by the committee on the carrying on of the business of pharmaceutical chemists by companies. It runs thus: "1. A body corporate, or in Scotland a firm or partnership, may carry on the business of a pharmaceutical chemist or chemist and druggist, and may use the description of chemist and druggist, or of chemist, or of druggist, if in every premises where the business is carried on the business is *bond fide* conducted by a manager or assistant being a duly registered pharmaceutical chemist or chemist and druggist, as the case may be, and if the name and certificate of qualification of the person so qualified is conspicuously exhibited in the shop or other place in which he so conducts the business; subject as aforesaid, Sections 1 and 15 of the Pharmacy Act, 1868, shall apply to a body corporate in like manner as they apply to an individual. 2. In Scotland anything which under this section would be an offence if committed by a body corporate shall be an offence if committed by a firm or partnership." The Bill has also been extended to Ireland subject to certain modifications.

The Royal College of Surgeons in Ireland and the Universities Bill.

Owing to the prolonged discussion on other matters in the Standing Committee of the House of Commons in connexion with the Irish Universities Bill on Wednesday, June 17th, Mr. BUTCHER'S amendment dealing with the position of the Royal College of Surgeons in Ireland was not reached. It will probably be taken at the next sitting of the Committee. This proposal is to give facilities on the passing of the Bill for the affiliation of the Royal College to the new University having its seat in Dublin. However, a distinction is drawn in the course of the proceedings between "a constituent college" and "an affiliated college."

The friends of the Royal College of Surgeons in Ireland are still active in bringing the claims of that body and its medical

school under the notice of the Government. Sir EDWARD CARSON on Tuesday, June 16th, introduced a deputation to the PRIME MINISTER and to Mr. BIRRELL to state the disadvantages which the Irish Universities Bill would bring on them. The deputation included Sir H. SWANZY, Mr. J. LENTAIGNE, Sir W. J. COLLINS, Sir JOHN BATTY TUKE, and several Members of Parliament. It was pointed out to Mr. ASQUITH that the medical school of the Royal College of Surgeons in Ireland enjoyed no State endowment, that such an endowment was to be given to the Cecilia-street Medical School, Dublin, and that the advantage thus given to the latter institution would prove ruinous to the former. The deputation also emphasised the popularity of the diploma of the Royal College of Surgeons in Ireland conjoined with that of the Royal College of Physicians. The injury to the medical school of the Royal College of Surgeons must react unfavourably on the College itself. After hearing the views of the deputation Mr. ASQUITH said that he fully recognised the importance of the case of the Royal College as it had been presented, and he promised to give it his sympathetic consideration.

The University of Durham.

The University of Durham Bill has received a second reading without debate.

HOUSE OF COMMONS.

MONDAY, JUNE 15TH.

The Administration of Anæsthetics.

Sir WILLIAM COLLINS asked the Secretary of State for the Home Department whether he proposed to take any action or to introduce any legislation with a view to secure that anæsthetics should not be administered except by persons who had been duly instructed in their administration and use.—Mr. GLADSTONE (by written answer) replied: I am making inquiries into the question of the administration of anæsthetics, as I have mentioned in answer to previous questions, but I am not in a position to make any further statement at the present time.

Infant Life Protection (No. 2) Bill.

Lord ROBERT CECIL, in moving the second reading of the Infant Life Protection (No. 2) Bill, promised to make certain amendments to meet the views of an hon. Member.

The Bill was then read a second time.

TUESDAY, JUNE 16TH.

Imperial Cancer Fund.

Mr. ARTHUR LEE asked the Prime Minister whether the official announcement that the Imperial Cancer Fund was supported by the Government implied that this fund was supported and financed, mainly or partially, out of public funds; whether he was aware that urgent appeals for further financial assistance to this fund were being publicly made by its treasurer; and whether the Government could see its way to respond to this appeal by an adequate grant from the Exchequer.—Mr. ASQUITH answered: When I said that this fund was supported by the Government what I meant was that the Government accorded it practical assistance in the collection and transmission of information and specimens and in defraying the incidental expenses connected with this work. It is not directly financed out of public funds and I doubt, though the question is one rather for the Chancellor of the Exchequer than for me, whether it would be possible to give it the exceptional favour of a grant from the Exchequer.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

BOVEY, T. W. W., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Horsmonden District of the county of Kent.

CLOWES, EDWARD FRANCIS, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Charfield District by the Thornbury (Gloucestershire) Board of Guardians.

COLCLOUGH, J. A., M.D. Durh., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Youlgreave District of the county of Derby.

DAVIDSON, J. A., M.B., Ch.B. Aberd., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

EAKIN, DAVID, M.B., Ch.B. Edin., has been appointed Medical Officer and Public Vaccinator to the Driffield Board of Guardians.

GLASIER, H., M.B., B.S. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Mildenhall District of the county of Suffolk.

HILL, FRANCIS R., M.B., C.M. Glasg., has been appointed Surgeon in Charge of the new Eye Department of the Cumberland Infirmary, Carlisle.

LOCKE, W. LINDSAY, M.B., Ch.B. Edin., has been appointed House Surgeon to the Carnarvonshire and Anglesey Infirmary, Bangor.

MILWARD, F. VICTOR, M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed an Honorary Surgeon to the Royal Orthopædic and Spinal Hospital, Birmingham.

PRITCHARD, ERIC, M.D. Lond., M.R.C.P. Lond., has been appointed Physician to Out-patients at the City of London Hospital for Diseases of the Chest.

SCOTT, G. WAUGH, M.B., Ch.B. Glasg., has been appointed Medical Officer to Bundi Tin Mines, Malay Peninsula.

SHANNON, DAVID, M.B. Glasg., L.M. Rot. Dubl., has been appointed Assistant Obstetric Physician to the Glasgow Maternity and Women's Hospital and Assistant Surgeon to the Royal Samaritan Hospital for Women, Glasgow.

SINCLAIR, ALEXANDER, M.D. Toronto, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

STAMP, WILLIAM DANIEL, L.R.C.P., L.M. Edin., M.R.C.S., has been appointed Medical Officer for Plympton Workhouse and Medical Officer and Public Vaccinator for the No. 1 District by the Plympton (Devon) Board of Guardians.

STEWART, GEORGE IRVINE THOMPSON, M.B., C.M. Aberd., F.R.C.S. Eng., has been appointed Medical Inspector of School Children to the East Suffolk County Education Committee.

STIDSTON, C. A., M.B., B.S. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer to the Wolverhampton and Staffordshire General Hospital, Wolverhampton.

TATE, ISOBEL A., M.D. R.U.I., D.P.H. Vict., has been appointed Medical Officer for the Inspection of School Children to the Shropshire County Council.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARGENTINA, BRITISH HOSPITAL, Buenos Aires.—Assistant Resident Medical Officer, unmarried. Salary £200, increasing to £300 per annum, with board and lodging.

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, washing, and lodging.

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £80 per annum, with board and residence.

BETHLEM HOSPITAL.—Resident House Physician (unmarried), for six months. Salary at rate of £25 per quarter, with board, residence, and washing.

BEXLEY, KENT, LONDON COUNTY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, and washing.

BRIDGWATER HOSPITAL.—House Surgeon, for six months. Salary at rate of £80 per annum, with board, lodging, and washing.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-resident House Surgeon for six months, renewable. Salary at rate of £100 per annum.

BRITISH LYING-IN HOSPITAL, Endell-street, W.C.—Resident Medical Officer. Salary at rate of £50 per annum, with board, lodging, and washing.

BURY ST. EDMUNDS, WEST SUFFOLK GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, attendance, &c.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, residence, and washing.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Physician. Salary £80 per annum, with board, residence, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon for six months. Salary at rate of £80 per annum, with rooms, board washing, and attendance.

COVENTRY, CORPORATION OF, EDUCATION COMMITTEE.—Assistant Medical Officer. Salary £250 per annum.

DERBY, COUNTY BOROUGH OF.—Medical Officer of Health. Salary £800 per annum.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £55 per annum, with board and lodging.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Physician. Salary £25, with board, residence, laundry, &c.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—Eight Clinical Assistants in the Out-patient Department. Also Honorary Anæsthetist.

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, 17, Bartlett's-buildings, Holborn Circus, E.C.—Resident Medical Officer. Salary £100 per annum, with rooms, attendance, fire, &c.

FLINT EDUCATION COMMITTEE.—School Medical Officer. Salary £250 per annum and allowances.

HANDSWORTH URBAN DISTRICT, Stafford.—Medical Officer of Health. Salary at rate of £500 per annum.

HITCHIN UNION.—Medical Officer and Public Vaccinator for the Union Workhouse. Salary £50 per annum and fees.

KING EDWARD VII. SANATORIUM, Midhurst, Sussex.—Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and attendance.

KINGSTON-UPON-HULL, CITY AND COUNTY OF.—Assistant Medical Officer of Health, unmarried. Salary £200 per annum, with residence, board, and washing.

LANARK, COUNTY OF, LIGHTBURN JOINT HOSPITAL FOR INFECTIOUS DISEASES, Shettleston, near Glasgow.—Resident Physician. Salary £140 per annum, with board, &c.

LEEDS MATERNITY HOSPITAL.—Honorary Medical Officer.

LEICESTER INFIRMARY.—Second House Surgeon. Salary at rate of £100 per annum, with board, apartments, and washing.

LEICESTERSHIRE AND RUTLAND LUNATIC ASYLUM.—Junior Assistant Medical Officer. Salary £150, rising to £180 per annum, with board, lodging, and washing.

LIVERPOOL, ROYAL SOUTHERN HOSPITAL.—Resident Pathologist and Registrar. Salary £100, with board and residence.

LIVERPOOL, WEST DERBY UNION, MILL-ROAD INFIRMARY.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—House Surgeon, non-resident, for six months. Salary at rate of £50 per annum. Also Anæsthetist.

MANCHESTER ROYAL INFIRMARY AND DISPENSARY.—Honorary Assistant Surgeon.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Third and Fourth House Surgeons for six months. Salaries £25, with board and residence.

MEDICAL MISSION HOSPITAL SETTLEMENT OF WOMEN WORKERS, Canning Town.—Senior Resident Medical Officer (female). Salary £100 per annum.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Assistant Surgeon.

MILE END OLD TOWN INFIRMARY AND WORKHOUSE, Bancroft-road, E.—Assistant Medical Officer. Salary £150 per annum, with board, lodging, and washing.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Junior House Surgeon for six months. Salary at rate of £80 per annum.

MOUNTAIN ASH URBAN DISTRICT EDUCATION COMMITTEE.—School Medical Officer. Salary £250 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Junior Resident Medical Officer. Salary £50 per annum, with board, lodging, &c.

NEW SOUTH WALES, AUSTRALIA, QUEEN VICTORIA HOMES FOR CONSUMPTIVES.—Resident Medical Officers at the King's Table Land Sanatorium and the Thirlmere Sanatorium. Salary £250 per annum, with board and residence.

POPLAR AND STEPNEY SICK ASYLUM, Bromley, E.—Second Assistant Medical Officer. Salary £100 per annum, with rations, apartments, and washing.

PORTSMOUTH BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Resident Medical Officer for four months. Salary at rate of £60 per annum, with board, residence, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Two House Surgeons for six months. Salaries at rate of £60 per annum, with board, residence, and laundry.

RANGOON MUNICIPALITY.—Health Officer. Salary Rs.1000, rising to Rs.1500 per mensem.

ROYAL GENERAL DISPENSARY, 25 and 26, Bartholomew's-close, E.C.—Physician. Salary £40 per annum.

ST. GEORGE'S UNION INFIRMARY, Fulham-road, London, S.W.—Second Assistant Medical Officer. Salary £120 per annum, with board, residence, and washing.

ST. MARY'S HOSPITAL, London, W.—Resident Casualty House Surgeon. Also Resident Assistant Anæsthetist. Both for six months. Salary in each case at rate of £100 per annum, with board and residence.

ST. PANCRAS AND NORTHERN DISPENSARY, 126, Euston-road.—Resident Medical Officer. Salary £105, with residence and attendance.

SHREWSBURY, SALOP INFIRMARY.—House Physician. Salary at rate of £60 per annum, with board and apartments.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House Surgeon. Salary £82 per annum, with board, residence, and laundry.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—Junior House Surgeon. Salary £50 per annum, with board, apartments, and washing.

TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

WESLEYAN METHODIST MISSIONARY SOCIETY.—Medical Secretary.

WEST HARTLEPOOL, CAMERON HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, rooms, and washing.

WEST LONDON HOSPITAL Hammersmith-road, W.—Assistant Surgeon. Also Surgical Registrar. Also Assistant Officer in Charge of the X-Ray Department.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Junior House Surgeon. Salary at rate of £80 per annum, with board, residence, and washing. Also Honorary Physician.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £80 per annum, with apartments, board, and laundry.

YORK, CITY OF, EDUCATION COMMITTEE.—Assistant Medical School Inspector. Salary £200 per annum.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Ullapool, in the county of Ross and Cromarty, and at Chesterfield, in the county of Derby.

Births, Marriages, and Deaths.

BIRTHS.

CHURCHWARD.—On June 12th, at Manchester-street, W., the wife of Albert Churchward, M.D., M.R.C.P., M.R.C.S., F.G.S., &c., of South Norwood, of a son.

MUMFORD.—On June 13th, at The Circus, Bath, the wife of Wilfred G. Mumford, M.B., F.R.C.S., of a daughter.

MARRIAGES.

EMANUEL—WOLFF.—On June 16th, at the New West End Synagogue, Joseph George Emanuel, M.D., to Ethel Miriam Cecilia, only daughter of Alfred Wolff.

HAIG—THORNE.—On June 10th, at St. Mary's, Summerstown, Wandsworth, Francis Murray Haig, M.D., to Eliza Mabel, daughter of John Mills Thorne, of Burntwood Lodge, Wandsworth Common.

HAMILTON—DENNIS.—On April 29th, at Christ Church, Hawthorn, Victoria, by the Rev. Herbert Taylor, Aileen, younger daughter of Talbot Hamilton, to Charles E. Dennis, M.D., B.S., youngest son of A. Dennis, of "Beyeuk," Terang, Victoria.

HAYMAN—PENNELL.—On June 13th, at St. Andrew's Church, South Streatham, S.W., Samuel Clifford Hayman, F.R.C.S., to Margaret Mary (Daisy) Pennell, elder daughter of Lovell Pennell, of Norbury-crescent, Norbury, S.W.

DEATHS.

CLOSE.—On June 13th, at Rothsay-road, Bedford, Deputy Inspector-General Henry Ashlin Close, Royal Navy (retired).

DUNLOP.—On June 5th, at 15, Spring Bank-place, Bradford, John Dunlop, M.D. Aberd., in his 68th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A COINCIDENCE OF INVENTION.

IN the issue of THE LANCET dated March 7th, p. 726, was described a form of stem pessary invented by Mr. Seymour Stritch for the treatment of procidentia uteri; Mr. Hughes R. Davies subsequently wrote to point out that he had devised a similar instrument and described it in our columns of Oct. 6th, 1900, p. 1020. Mr. Stritch gave to Mr. Davies full credit for priority as soon as his letter had appeared, but subsequently on May 9th, p. 1385, we published a letter from Messrs. Down Brothers, the makers of Mr. Stritch's instrument, in which they stated that they knew of Mr. Davies's invention and should certainly have suggested a trial of it to Mr. Stritch had there not been an essential difference between the instruments, since Mr. Davies's allows for permanent oscillation whilst Mr. Stritch's has its stem locked by a new device, its inventor having considered that in the original case for which it was made anything but absolute fixation would allow some measure of prolapse of the womb and perhaps of the bladder also. We have received a further letter from Mr. Davies in which he reminds us that in his original description of his instrument he claimed that "neither bladder nor rectum are interfered with and the dragging down and prolapse of the former are absolutely prevented," and he further states that his instrument will efficiently support a combined procidentia uteri, rectocele, and cystocele, without a previous operation. It would thus appear that although there is a small difference of detail the instruments are so nearly identical in their construction and uses as to constitute a plain case of coincidence of invention. It is, indeed, not surprising that two men of a common ingenuity of mind confronted at different times with similar mechanical problems should arrive at a similar means of solution, and the multiplication of scientific literature affords an obvious excuse for the ignorance of the second inventor in the field of the fact that he has been forestalled. If we go back far enough we find the opposite condition—the scarcity of means of inter-communication in the world of science—to have been responsible for the same kind of confusion, a notable example of which was the independent discovery of oxygen by two great chemists. It is barely conceivable nowadays that the recognition of such pioneer work in any science should be bestowed unfairly unless some future giant of intellect should practise such self-effacement as did John Couch Adams who, anxious that English astronomy should have the credit of discovering a new planet, deposited with the Astronomer Royal the precious mathematical data which his genius had prepared for its location, with the result that his calculations were kept lying idle for more than a year, whilst Leverrier in France achieved the like results, which subsequently enabled Galle in Berlin to announce the discovery of Neptune. We can hardly think that such cosmic issues will be again confused but it is to be expected that coincidences of discovery and inventions making for scientific progress or individual convenience will continue to occur whether because the air is charged with them, as sometimes seems to be the case, or because independent workers are confronted with similar tasks. We can only hope that any future inventor who may find that another has forestalled him will prove as ready to bestow the credit on him as has Mr. Stritch upon the original though not the "onlie begetter" of the Davies pessary.

A DISCOURTEOUS METHOD OF REPLY.

To the Editor of THE LANCET.

SIR,—Please permit me through your columns to draw the attention of the medical profession to what I consider a discourteous method of doing business. I applied some weeks ago for the post of medical inspector of school children when I got a printed reply, in an open envelope, stating that another practitioner, a lady doctor, had got the appointment. Of course, the P.O. officials had to examine the letter for written matter. Now—knowing what we do of rural curiosity—is it too much to suppose that the contents were read? Even taking it for granted that they were not, my experience is that a domestic servant will eagerly peruse an open letter belonging to her master. It would be wise, therefore, if medical men applying for those positions would request a reply in a closed envelope.

I am, Sir, yours faithfully,
L.R.C.P. EDIN.

"U.S. INSPECTED."

ALTHOUGH since July, 1906, the inspection of export meat in America has ceased to be a dangerous fiction, yet neither Dr. G. S. Buchanan nor Dr. W. Collingridge is satisfied with the guarantee which the label "U.S. Inspected" affords of the soundness of American meat, especially when it is of the "scrap" variety. "Boneless scrap meat" is really a by-product of the canning industry and is sold wholesale for pies and sausages at about 3*d.* per pound. From the experience of last year, when diseased meat and meat treated with excessive quantities of boric acid were found on several occasions bearing the American inspectors' endorsements, the medical officer

of health of the City considers that the inspections upon which it was founded were carried out with so little regard for efficiency that the City inspectors would not be justified in passing a carcass bearing a United States label without examining it. With the increasing conviction in many minds that tuberculosis often finds entrance through the alimentary canal it behoves meat inspectors to be continuously diligent, but it is a matter of regret that the good intentions of the United States consequent upon the exposure of the condition of their meat market have not borne sufficient fruit to lessen the responsibility of English officials upon the score of meat which has crossed the Atlantic.

FEMALE VOTING AND MENTAL DISEASE.

To the Editor of THE LANCET.

SIR,—In your issue of May 30th, under the heading of "Female Voting and Mental Disease," it is stated by one of your correspondents that though the women of Finland have for some time possessed the right to vote and to be elected members of the Landtdag, this does not appear to be an undoubted boon. In proof of this the opinion of a Finnish medical man is quoted. The latter is reported to have said that in the municipality of Nurmes the number of lunatics has been steadily increasing *from the year 1900 up to now* (the italics are mine). We are told that in 1900 the population was 11,888, with 29 lunatics; in 1906 it was 12,137, with 67 lunatics. As he is unable to account for this state of things on political or religious grounds he puts it down to "the very emancipated views of the female population," caused, it is suggested, by their political enfranchisement. This would be a very interesting and valuable contribution to the arguments against women's suffrage, were it not for the fact that the new constitution of universal suffrage which in Finland confers the right to vote on all persons of either sex who pay taxes and are not insolvent, *was introduced in May, 1906*, the first elections on the new suffrage basis took place in March, 1907, the Members taking their seats on May 23rd of that year. It is hardly fair to give the impression that the fact of Finnish women registering their votes in 1907 is the cause of the increase of lunacy in the municipality of Nurmes between 1900 and 1906.

I am, Sir, yours faithfully,

June 12th, 1908. E. B. MITFORD.

LIGHTNING AND HAIR-CURLERS.

AMONG many incidents during the recent thunderstorms was a remarkable fatality at Stone in Kent, on the borders of Sussex and the hop county, where a woman, aged 41 years, was struck by lightning which was deflected from its course by her hair-curlers. During a storm in the early hours of the morning of June 4th the woman left her bedroom to pacify her children in another room. She was about to return when she suddenly exclaimed "Oh, dear!" and fell dead on the floor, her nightdress bursting into flames. Mr. C. F. Pridham found that her hair and eyebrows had been singed and on the angle of her right lower jaw there was an indented mark, star-shaped and brown-stained. On the left jaw was a punctured wound about half an inch in length. He removed from the hair six curlers which he found, by the aid of a compass, had acquired polarisation. Death was due to a lightning stroke, and the jury at the inquest on the following day returned a verdict accordingly.

MESSRS. CARTERS' NEW ESTABLISHMENT FOR INVALID FURNITURE.

AFTER some 55 years in their old premises in New Cavendish-street, London, Messrs. Carters have removed into new premises at the corner of New Cavendish-street and Great Portland-street. On Tuesday last some representatives of the medical press were shown over the new building, which is a handsome structure and well conceived and planned for the adequate display of the invalid and surgical furniture. It is intended later, we are informed, to invite members of the medical profession to inspect the new building and its large stock of appliances for insuring the comfort or alleviating the sufferings of those who are physically afflicted. We recommend all who are bidden to go. Messrs. Carters have long been known to the medical profession for the thoroughness of their work and the ingenuity of their ideas, as our columns have not infrequently testified, and we believe that some of the mechanical appliances devised by them to help those bodily distressed, in whatever direction the disability may lie, will prove surprising to a good many of those who visit the show-rooms.

THE medical and dental students of the University of Birmingham have just paid what may now be regarded as an annual visit to the establishment of Messrs. Philip Harris and Co., Limited, of Birmingham. The arrangements for the demonstration were made by Dr. J. Coole Kneale, and the students were shown over each section of the pharmacy business, the tour being made as instructive as possible by explanations being given of modern pharmaceutical and analytical processes.

Αθηναιος should consult his medical adviser.

Dr. J. Vincent Bell.—We are in accord with our correspondent's views, but the subject is a very large one and we are compelled for the present to keep the discussion, as far as we publish any details of it, to the particular circumstances.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

MONDAY.

ODONTOLOGICAL SECTION (Hon. Secretaries—Lewin Payne, H. H. Trewby): at 8 P.M.

Specimens:

Dr. Arthur Evans: A Case of Diffuse Fibrous Growth of the Gums.

Mr. R. McKay: Supernumerary Teeth.

Casual Communications:

Dr. A. W. W. Baker: A Difficult Extraction.

Dr. Sim Wallace: A Classification of Dento-Facial Irregularities.

Mr. W. F. Mellersh: An Amalgamator—a Mechanical Device for Amalgamating Alloys.

TUESDAY.

MEDICAL SECTION (Hon. Secretaries—H. H. Tooth, C.M.G., H. P. Hawkins): at 5.30 P.M.

Paper:

Dr. A. M. Gossage: The Tone of Cardiac Muscle.

SATURDAY, June 27th.

OTOLOGICAL SECTION (Hon. Secretaries—W. H. Kelson, Hunter Tod), at the Ear and Throat Department, Royal Infirmary, EDINBURGH: at 10 A.M.

Demonstration:

Professor Cunningham.

Cases and Specimens:

Drs. McBride, A. Logan Turner, Henry Wade, J. S. Fraser, W. G. Porter, J. M. Darling, A. Bronner, Dundas Grant, W. Fernewan, C. A. Ballance, MacLeod Yearsley, Richard Lake, Gibbon, Urban Pritchard, Sydney Scott, Albert Gray, W. Milligan, and T. Barr.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY.—5 P.M., Croonian Lecture:—Dr. A. E. Garrod: Inborn Errors of Metabolism.

THURSDAY.—5 P.M., Croonian Lecture:—Dr. A. E. Garrod: Inborn Errors of Metabolism.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. Colcott Fox: Clinique (Skin). 5.15 P.M., Lecture:—Dr. G. A. Sutherland: Acute Abdominal Attacks in Children.

TUESDAY.—4 P.M., Dr. L. Guthrie: Clinique (Medical). 5.15 P.M., Lecture:—Mr. J. H. Evans: Cancer of the Face (with lantern slides).

WEDNESDAY.—4 P.M., Mr. M. White: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. W. Carr: The Treatment of Acute Pneumonia.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. W. D'E. Emery: Lumbar Puncture.

FRIDAY.—4 P.M., Dr. D. Grant: Clinique (Ear).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—12 noon, Lecture:—Dr. Low: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Bidwell: Results after Gastro-enterostomy.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Low: Ankylostomiasis.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Beddard: Medicine.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Edwards: Clinical.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. R. Scott: Practical Ophthalmology.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., Medical Out-patient (Dr. Whipham); Nose, Throat, and Ear (Mr. Carson); X Rays. 4.30 P.M., Demonstration of Selected Cases of Children's Disease (Dr. Whipham).

TUESDAY.—Clinic:—10 A.M., Medical Out-patient (Dr. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Clinics:—Surgical (Mr. Edmunds); Gynæcological (Dr. Giles).

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. Whipham); Skin (Dr. Meachen); Eye (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. Giles). Clinics:—Medical Out-patient (Dr. Whiting); Surgical (Mr. Carson); X Rays. 3 P.M., Medical In-patient (Dr. Chappel). 4.30 P.M., Demonstration of Selected Medical Cases (Dr. Auld).

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). Clinics:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Special Lecture:—Mr. W. Turner: Surgical Conditions of the Gall Bladder. 4 P.M., Mr. L. A. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. T. Hewlett: Medicine. 3.15 P.M., Mr. McGavin: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Special Lecture:—Mr. Cargill: Optic Nerve Atrophy. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Lecture:—Dr. F. Buzzard: Bulbar Paralysis.
FRIDAY.—3.30 P.M., Lecture:—Dr. F. Buzzard: Aphasia.

ROYAL INSTITUTE OF PUBLIC HEALTH, Theatre of the Institute, 37, Russell-square, W.C.

WEDNESDAY.—5 P.M., Harben Lecture:—Prof. G. H. F. Nuttall: Piroplasmosis.

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TUESDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (24th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2 30 P.M.).

THURSDAY (25th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (27th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 18th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
June 12	30·04	S.W.	...	110	67	55	56	60	Overcast
,, 13	29·94	S.W.	...	116	65	53	52	59	Cloudy
,, 14	29·72	W.	...	106	68	54	55	62	Cloudy
,, 15	29·95	S.W.	...	124	70	53	56	62	Cloudy
,, 16	29·72	S.W.	...	110	67	56	56	62	Cloudy
,, 17	29·70	S.E.	0·43	97	62	56	56	57	Raining
,, 18	29·95	S.W.	0·02	122	67	51	54	58	Fine

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